



### ***3.13 ECONOMIC AND SOCIAL ENVIRONMENT***

The proposed acquisition of PALCO and Elk River Timber Company lands and the establishment of the Headwaters Reserve by federal and state agencies would result in economic and social effects. This proposed action also involves PALCO's development of a SYP and an HCP. The following analysis also briefly evaluates potential economic and social effects that may occur with the establishment and on-going operation of the Headwaters Reserve. These potential effects would be evaluated in more detail when NEPA/CEQA compliance is conducted for a Headwaters Reserve Management Plan.

Per the FPRs, a SYP should discuss economic and social issues pertinent to the proposed management of commercial timber lands. In this sense, an objective of a SYP is to develop a management plan that ensures "maximum sustained yield and production of high quality timber products while giving consideration to regional economic vitality." For the PALCO SYP, the regional economy is defined as Humboldt County and surrounding counties with economic ties to the county. To assess effects, this analysis will consider the following:

1. Potential effects of proposed timber harvests on PALCO lands in relation to the regional timber industry
2. Potential timber industry or other employment opportunities for workers based on proposed harvest levels
3. Potential in-migration or out-migration of workers and their

families based on timber industry employment opportunities and changes in personal income

4. Potential effects on government taxes and revenue from timber harvests and expenditures by timber-related workers and their families

The proposed PALCO HCP primarily focuses on silviculture and harvesting practices and associated mitigation that would protect the habitats of threatened and endangered plant and wildlife species found on PALCO's commercial forest land. The discussion below does not address potential social or economic effects directly resulting from the approval of the proposed PALCO HCP. The approval of the HCP, however, obligates PALCO to implement a consistent SYP, which affects future timber harvest volumes.

This section evaluates the potential economic and social effects resulting from the proposed alternatives, which incorporate the implementation of PALCO's proposed SYP and HCP. The affected environment discussion includes a description of the primary region of influence, population growth trends, historic employment trends, and the status of the timber industry for the North Coast Region. Following is a description of the federal, state, and local taxes and revenues that may be affected by the proposed alternatives. Potential direct, indirect, and cumulative social and economic effects for each of the alternatives are discussed in Section 3.13.2, Environmental Effects.

### 3.13.1 Affected Environment

The following discussion of the affected environment is divided into five sections. The first three sections describe the regional characteristics of the North Coast Region: population, employment, and income. The fourth section presents the historical context of the regional timber industry. Several federal, state, and local government taxes and revenues that may be affected by the proposed alternatives are described in the fifth section. A brief description of the North Coast Region and the primary region of influence that may be affected by the proposed alternatives follows.

#### North Coast Region

The PALCO and Elk River Timber Company commercial forest lands are located in Humboldt County (see Figure 1.2-1). The regional economy in this rural county historically has been resource-based, and timber has been the primary industry. Approximately half of the county's residents live in three cities—Eureka, Arcata, and McKinleyville. Others live in small cities and rural communities. Highway 101 is the major coastal route for all traffic between Crescent City in Del Norte County to the north, Eureka in Humboldt County, and Ukiah in Mendocino County to the south. Except for winding, narrow county roads, Highway 36 and SR 299 link Eureka, the Humboldt County seat, to Redding, the largest city north of Sacramento. As such, the county's residents and businesses are relatively isolated.

#### Primary Region of Influence

The primary region of influence is defined as the geographic area that encompasses communities whose residents would sustain the greatest potential socioeconomic impacts from the proposed alternatives. It is an area typically based on similar geographic features, resident expenditure

and consumption patterns, and linkages of business activities.

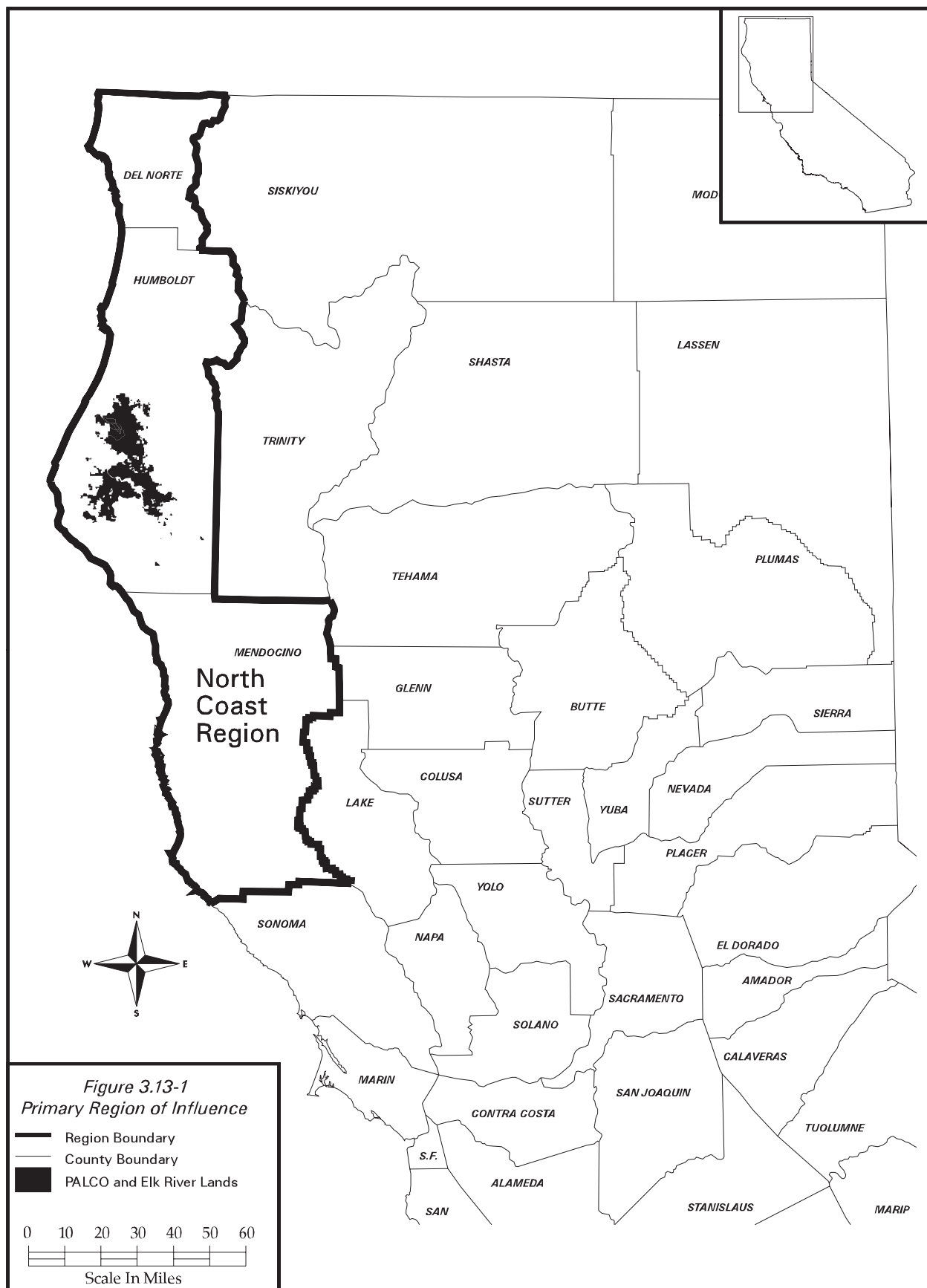
Based on these characteristics, the primary region of influence for this socioeconomic analysis is California's North Coast Region (see Figure 3.13-1). This rural region is defined by Del Norte, Humboldt, Mendocino, and sometimes Sonoma counties. Eureka in Humboldt County is the largest city in the North Coast Region and serves as the major focus of business activity in northwestern California.

#### 3.13.1.1 Population

Over the past three decades, the North Coast Region has experienced only a modest increase in population. In 1960, the population of the three-county region (Del Norte, Humboldt, and Mendocino) was 173,700 (see Table 3.13-1). By 1997, the region's population had increased modestly to 240,750. Although this is an increase of approximately 39 percent, the compound growth rate over this 37-year period was only one percent per year. This is a relatively slow rate of growth, especially in contrast to the near doubling of the state's population during this same period.

The distribution of the region's population has historically been concentrated in Humboldt County. In 1960, approximately 60 percent of the region's population resided in Humboldt County, with 29 percent in Mendocino County and 11 percent in Del Norte County. In 1997, Humboldt County had 53 percent of the region's total population, and the population of Mendocino County had increased to 36 percent of the region's total.

Over the past three decades, a proportionately higher percentage of the population increase has occurred in Mendocino County. In fact, the compound growth rate for the period 1960 through 1997 was highest in Mendocino County (1.8 percent) and lowest in Humboldt



**Table 3.13-1. North Coast Region Population and Growth Trends, 1960 to 1997**

County	1960	1970	1980	1990	1997	Compound Growth 1960 to 1997
Del Norte	17,800	14,580	18,300	23,460	28,250	1.6%
Humboldt	104,900	99,692	108,900	119,118	126,600	0.6%
Mendocino	51,000	51,101	67,000	80,345	85,900	1.8%
Region	173,700	165,373	194,200	222,923	240,750	1.0%
California	15,863,000	19,971,069	23,782,000	29,758,213	32,609,000	2.9%

Sources: State of California, Department of Finance, 1970, 1982, 1991, and 1997.

County (0.6 percent). Furthermore, Mendocino County experienced an increase of 34,900 new residents while Humboldt County's population increased by only 21,700.

In Humboldt County, the larger cities continue to attract the major share of growth in the county. Table 3.13-2 shows the California Department of Finance's estimated January 1 population of the county's incorporated cities for 1980, 1990, and 1997. In 1997, the three largest incorporated cities were Eureka (27,600 population), Arcata (16,400 population), and Fortuna (9,975 population). Between 1980 and 1997, the population of Arcata and Eureka increased 3,551 and 3,447, respectively. The growth in these two cities comprised over 38 percent of the total population increase in the county during the time period. The population of the other cities and towns experienced little or no growth between 1980 and 1997.

In addition to the historic growth trends, the demographic characteristics of the North Coast Region differ markedly from the state trends. In 1990, approximately 69.0 percent of the population of California was Caucasian, 13.2 percent was Other Races, and 7.4 percent was Black (McGinnis et al., 1996). Native Americans comprised only 0.8 percent of the population, and

25.8 percent of the population was of Hispanic origin. In contrast, the North Coast Region is more predominantly Caucasian and its most significant minority race is Native American. As reported in *County Portraits of Oregon and Northern California* (McGinnis et al., 1996), the 1990 populations of Del Norte, Mendocino, and Humboldt counties were 86.1 percent, 89.6 percent, and 90.6 percent Caucasian, respectively. The Native American population in Del Norte, Mendocino, and Humboldt counties, comprised 6.4 percent, 4.1 percent, and 5.5 percent, respectively. This relatively high proportion of Native Americans is partly due to the existence of 19 rancherias or reservations in the North Coast Region. Only Del Norte County has a significant portion of its population that is Black (3.7 percent), which is still well below the estimated 7.4 percent of the state's population that is Black. In 1990, persons of Hispanic origin comprised only 4.2 percent of the population of Humboldt County, whereas the concentrations in Del Norte and Mendocino counties were 10.3 percent, less than 40 percent of statewide figures.

### 3.13.1.2 Employment

Over the past two decades, the economic base of the North Coast Region has been

**Table 3.13-2. Humboldt County Population, 1980, 1990, and 1997**

	<b>1980</b>	<b>1990</b>	<b>1997</b>	<b>Compound Growth 1980 to 1997</b>
Humboldt Co.	108,525	119,118	126,600	1.0%
Arcata	12,849	15,211	16,400	1.6%
Blue Lake	1,201	1,235	1,250	0.2%
Eureka	24,153	27,025	27,600	0.8%
Ferndale	1,367	1,331	1,240	-0.5%
Fortuna	7,591	8,788	9,975	1.8%
Rio Dell	2,687	2,997	2,920	0.5%
Trinidad	379	362	360	-0.3%
Unincorporated	58,298	62,169	66,800	0.9%

Sources: State of California, Department of Finance, 1984 and 1997.

diversifying. Table 3.13-3 shows changes in employment in the major industrial sectors of the economy for each of the region's three counties for 1983 and 1997. During this period, overall employment increased from 65,770 to 88,060, which is a healthy 2.4 percent compound growth rate. Over 14,000 jobs were created in the trade and services sectors, which experienced a 3.1 percent and 4.1 percent growth rate, respectively. In contrast, the regional manufacturing sector increased by only 960 jobs while the sector declined from comprising 17.4 percent of total employment in 1983 to 14.1 percent in 1997. Similarly, employment in the government sector of the economy increased by 4,310 jobs, yet employment in the government sector has declined from 23.8 percent to 22.7 percent of the region's total employment between 1983 and 1997. Clearly, the region has become less dependent upon the manufacturing and government sectors of the economy and more dependent upon the trade and services sectors.

Despite these historical increases in regional employment, past unemployment figures for the region tend to be higher than statewide rates. In 1986, the unemployment rate for California was

6.7 percent, yet the rates for Del Norte, Humboldt, and Mendocino counties were 12.8 percent, 9.1 percent, and 9.5 percent, respectively (U.S. Department of Commerce, 1988). In part, these high rates of unemployment in the region reflect the seasonal employment in the lumber and wood products industry. Between 1993 and 1996, the unemployment rates in the region continued to be higher than the figures for the entire state. During this period, the unemployment rate for the state steadily dropped from 9.4 to 7.2 percent. The rate of unemployment in Del Norte County decreased from 13.6 to 10.2 percent, the rate for Humboldt County decreased from 9.8 to 7.5 percent, and the rate for Mendocino County decreased from 11.3 to 8.4 percent (California Statistical Analysis, 1996, 1997). These data clearly show that regional unemployment trends follow statewide trends, and the relative ranking of the unemployment rates among the three counties continues to reflect historical patterns. The narrowing gap between the county statistics and the statewide statistics tend to indicate a stronger local economy and/or increased economic diversification. The gap between Humboldt County and statewide figures are the smallest and shows the economy in

**Table 3.13-3. North Coast Region Employment by Industry Sector, 1983 and 1997**

County	Year	Total	Agriculture	Const/Mining	Manufacturing	Trans/Util	Trade	F.I.R.E.	Services	Government
Del Norte	1983	5,110	500	120	1,020	280	900	130	710	1,450
	1997	7,840	420	180	540	250	1,580	160	1,700	3,010
	Growth Rate	3.8%	-1.1%	3.6%	-3.4%	-0.8%	5.4%	1.6%	10.0%	7.7%
Humboldt	1983	37,400	700	1,000	5,700	2,200	8,700	1,500	7,800	9,700
	1997	49,000	1,000	1,600	6,700	2,000	11,900	1,900	12,300	11,600
	Growth Rate	2.2%	3.1%	4.3%	1.3%	-0.6%	2.6%	1.9%	4.1%	1.4%
Mendocino	1983	23,260	1,460	650	4,700	920	5,150	810	5,050	4,510
	1997	31,220	2,360	1,170	5,140	1,220	7,710	930	7,330	5,360
	Growth Rate	2.4%	4.4%	5.7%	0.7%	2.3%	3.6%	1.1%	3.2%	1.3%
Region	1983	65,770	2,660	1,770	11,420	3,400	14,750	2,440	13,560	15,660
	1997	88,060	3,780	2,950	12,380	3,470	21,190	2,990	21,330	19,970
	Growth Rate	2.4%	3.0%	4.8%	0.6%	0.1%	3.1%	1.6%	4.1%	2.0%

Note: Employment figures are estimates and may not sum to total.

Source: California Employment Development Department, 1997.

the three-county region. Furthermore, the historical unemployment rates in Humboldt County, although higher than statewide figures, have been significantly less than the double-digit rates that have characterized the agricultural counties of the Central Valley and the rural counties in the Sierra Nevada Mountains.

Table 3.13-3 also shows that employment in the manufacturing sector of the region's economy is concentrated in Humboldt County. In both 1983 and 1997, Humboldt County's manufacturing sector comprised 50 percent and 54 percent, respectively, of the three-county region's total manufacturing employment. Moreover, employment in the timber industry has historically represented the largest share of manufacturing jobs in the region. Employment related to the management of the trees prior to harvesting is referred to as the forestry sector of the economy, or Standard Industrial Classification 08 (SIC 08). Like farming, these jobs relate to the "growing" of trees and constitute a small percentage of the total number of workers in the timber industry. Jobs related to the harvesting and processing of timber are classified as part of the manufacturing sector and are specifically classified in the lumber and wood products sector (SIC 24). The dominance of the timber industry in this region is therefore reflected in historical employment figures in the lumber and wood products sector of the economy.

In the North Coast Region, total employment in the lumber and wood products sector decreased from 13,600 in 1972 to 7,110 in 1997 (Table 3.13-4). This is a 48 percent decrease in timber employment. During this same period, employment in the lumber and wood products sector fell from 25 percent to eight percent of total employment in the region. Del Norte County experienced the greatest proportional decline—from 32 percent to 3 percent. Humboldt County,

however, experienced the largest decrease in actual number of jobs with 4,000 fewer lumber and wood products jobs in 1997 than in 1972.

Table 3.13-5 provides more-detailed information concerning past expansion and contraction of the timber industry in Humboldt County. This table shows annual employment figures for the lumber and wood products sector for Humboldt County between 1960 and 1997. Peak lumber and wood products employment for the period between 1960 and 1997 occurred in 1963 with a total of 10,700 lumber and wood products jobs. In contrast, employment in the lumber and wood products sector hit its lowest point in 1992 when employment dropped to 3,700. Overall, the data clearly show a fairly constant decline in lumber and wood products employment over the past 37 years, except for a few years of strong economic expansion that created slight increases in employment. Increased use of mechanized equipment and new technology as well as increased harvests of young-growth trees are partly responsible for this decrease in employment (see Timber Industry Section below).

The lumber and wood products industry includes five subcategories of business activities: logging, sawmill operations, millworks for specialty products, the construction of wood containers, and other, miscellaneous timber-related activities. A 1994 survey by the U.S. Census Bureau reported that approximately 77 percent of all lumber and wood products employment in Humboldt County is involved in sawmill operations. In contrast, employment with logging companies comprises an estimated 17 percent of workers (U.S. Department of Commerce, 1994). This proportional split between logging and sawmill jobs reflects Humboldt County's standing as the center of primary timber processing in northwestern California, despite the

**Table 3-13.4. North Coast Region Timber Industry Employment, 1972 and 1997**

Year	<u>Del Norte County</u>			<u>Humboldt County</u>			<u>Mendocino County</u>			<u>North Coast Region</u>		
	Total	L&WP	% L&WP	Total	L&WP	% L&WP	Total	L&WP	% L&WP	Total	L&WP	% L&WP
1972	4,800	1,550	32	33,850	8,400	25	16,125	3,650	23	54,445	13,600	25
1997	7,840	220	3	49,000	4,400	9	31,220	2,490	8	88,060	7,110	8

Notes: Total - Total employment in the county.

L&WP - Lumber and wood products industry (SIC 24).

% L&WP - The percent of total employment in the lumber and wood products industry.

Sources: fax communication, Anita Alexander, California Employment Development, March 26, 1997 and Labor Market Information, September 21, 1998. Website: <http://www.calmis.cahwnet.gov/file/indhist/delnohaev.xls>

sawmill closures that have occurred in recent years.

Although the largest share of workers are employed by sawmills, nearly two-thirds of all lumber and wood products businesses in Humboldt County are logging companies. In 1994, fewer than 25 percent of all lumber and wood products businesses in Humboldt County were sawmills (U.S. Department of Commerce, 1994). Approximately 26 percent of these companies, however, employed over 100 workers and 1 company employed more than 500 workers. In contrast, approximately 63 percent of all lumber and wood products companies were logging companies, and nearly 90 percent of the logging businesses employed less than 20 employees.

Furthermore, overall employment growth has helped to diversify Humboldt County's economy and reduce its dependence upon the timber industry (Table 3.13-5). In 1960, there were 8,600 direct jobs in the lumber and wood products sector, representing over 23 percent of total employment in the county. Using a 1.85 employment multiplier effect (Stewart, 1993) associated with timber jobs over past decades, an estimated 15,910 jobs, or approximately 44 percent of the county's 1960 total

employment, was related to the timber industry. In strong contrast, there were only 4,400 jobs in the lumber and wood products sector in 1997. This employment comprised approximately the same percentage of total manufacturing jobs in the county, although only 8.9 percent of total employment in the county. Using a more recently calculated employment multiplier of 1.65 (California Trade and Commerce Agency), approximately 15 percent of total employment in Humboldt County is related to the timber industry. At these employment levels, Humboldt County's economy continues to be strongly influenced by the timber industry although significantly less than in past years.

### 3.13.1.3 Income

The income of residents living in the North Coast Region has historically been below the statewide median household income. For 1989, the 1990 Census reported that the median household income for Californians was \$35,798. In contrast, the median household incomes of residents of Del Norte, Humboldt, and Mendocino counties were \$22,917, \$23,584, and \$26,443, respectively (California Statistical



**Table 3.13-5. Humboldt County Employment in the Lumber and Wood Products Industry, 1960 to 1997**

<b>Year</b>	<b>Total</b>	<b>Manufacturing</b>	<b>Lumber &amp; Wood Products</b>	<b>L&amp;WP Share of Manufacturing</b>	<b>L&amp;WP Share of Total</b>
1960	36,215	12,856	8,600	67%	24%
1961			9,900		
1962			10,200		
1963			10,700		
1964			9,500		
1965			9,600		
1966			9,500		
1967			7,900		
1968			8,900		
1969			9,200		
1970	33,563	8,391	7,875	94%	23%
1971	NA	NA	7,800	NA	NA
1972	33,850	9,675	8,400	87%	25%
1973	35,150	9,625	8,400	87%	24%
1974	35,925	9,000	7,700	86%	21%
1975	36,400	8,325	7,000	84%	19%
1976	38,450	8,825	7,300	83%	19%
1977	39,050	8,800	7,300	83%	19%
1978	38,950	8,225	6,700	81%	17%
1979	41,125	8,075	6,500	80%	16%
1980	40,200	6,950	5,400	78%	13%
1981	39,525	6,450	5,000	78%	13%
1982	37,800	5,600	4,200	75%	11%
1983	37,400	5,700	4,400	77%	12%
1984	38,100	5,900	4,600	78%	12%
1985	38,500	5,900	4,600	78%	12%
1986	39,700	6,200	4,700	76%	12%
1987	43,100	6,600	5,000	76%	12%
1988	43,600	6,800	5,100	75%	12%
1989	44,300	6,600	4,800	73%	11%
1990	44,900	6,300	4,500	71%	10%
1991	45,500	5,900	4,100	69%	9%
1992	44,700	5,900	3,700	63%	8%
1993	45,300	6,000	3,800	63%	8%
1994	46,100	6,500	4,200	65%	9%
1995	47,200	6,900	4,500	65%	10%
1996	48,300	7,000	4,600	66%	10%
1997	49,000	6,700	4,400	66%	9%

Note: The 1960 through 1964 lumber and wood products employment is for the month of December, in contrast to annual average employment for 1965 to 1997. Typically, December employment is the lowest monthly total of the year. Considering the strength of the state's economy during these years, one would expect annual average employment to be higher than December employment.

Source: State of California, Employment Development Department, 1997.

Abstract, 1997). Similarly, the U.S. Department of Commerce recently published income statistics for 1993 (U.S. Department of Commerce, 1998). For this year, the estimated statewide household median income declined to \$34,129, while the median household incomes increased for Del Norte, Humboldt, and Mendocino counties to \$25,025, \$26,224, and \$27,455, respectively. To a great extent, the low median household incomes of residents of the North Coast Region reflect the resource-based economy, the significant growth in low-paying services jobs, and the lower cost of living found in this rural region of the state. In addition, significant personal income is from public and private transfer payments (Stewart, 1993).

Compared to the rest of the state, a larger percentage of the population in the North Coast Region survives on incomes below the federal poverty level. In 1989, 12.5 percent of California's population was living below the poverty level (California Department of Finance, 1997). For Del Norte, Humboldt, and Mendocino counties, the proportion of the population living below the poverty level for 1989 was 15.7 percent, 17.6 percent, and 14.2 percent, respectively. In 1993, the percentage of the population living below the poverty level was still quite high in California. The estimated percentage of the state's population living below the poverty level was 17.4 percent and the estimated rates for Del Norte, Humboldt, and Mendocino counties were 20.2 percent, 17.2 percent, and 16.8 percent, respectively (U.S. Department of Commerce, 1998). Only suburban metropolitan counties had rates below 10 percent. Most significantly, the percent of the population in Humboldt County residing below the poverty level during this period decreased by approximately one-half of a percentage point while rates increased more than four percentage points for the state and Del Norte County. It appears that fewer Humboldt County residents lived

below the poverty level due to increased local employment opportunities.

In Humboldt County, the focus of the timber industry in the North Coast Region, the average annual earnings of timber-related workers has historically exceeded the median household income of residents. During the mid- and late 1980s, the average annual earnings of timber-related employees steadily increased from approximately \$25,600 in 1983 to approximately \$32,000 in 1990 (Fax communication, Anita Alexander, Labor Market Analyst, Employment Development Department, March 26, 1997). In 1989, however, median household income was \$23,584. Earnings since 1990, however, have stagnated for timber-related workers. From 1991 through 1993, harvest levels and total employment in the timber industry declined, largely due to the national recession. For 1993, the Census Bureau reported an estimated median household income of \$26,265 for Humboldt County (Census, 1998), but average annual earnings of timber-related employees only increased above the 1990 earnings the following year—1994 (U.S. Department of Commerce, 1998). Average annual timber-related earnings did not exceed 1990 levels until 1994. As such, earnings have not kept pace with inflation, though forest products manufacturing jobs remain among the best paid in the county, nearly 50 percent more than the overall county average (Lammers, 1998).

#### **3.13.1.4 The Timber Industry**

Lumber remains the country's predominant building material, especially for residential construction. As market indicators predict lower interest rates and economic expansion, the demand for lumber increases in anticipation of increased demand for residential construction. Similarly, as market indicators indicate higher interest rates and general economic contraction, the demand for lumber decreases as housing

construction winds down. As such, economists in the timber industry carefully study national and regional economic forecasts in order to meet anticipated demand for lumber.

The timber industry in California is a significant player in meeting both the state's and the nation's demand for lumber. Approximately three to four percent of the nation's commercial forest lands are located in California (California Department of Forestry and Fire Protection, 1988). The timber industry in California and Nevada together ranks third in the nation in lumber output and comprises approximately 10 percent of lumber production (Ward, 1995). Timber harvests occur in 39 of the state's counties, particularly those counties with lands in the Santa Cruz Mountains, the Sierra Nevada Mountains, and the forests of the North Coast.

### **North Coast Harvests**

Table 3.13-6 provides historical harvest data for the North Coast Region, including detailed statistics for Humboldt County. In this table, the total volume of timber harvested in the region between 1947 and 1960 clearly demonstrates the strong demand for timber following World War II as annual harvest levels increased from 716,544 mbf to over 2,600,000 mbf in the late 1950s. Between 1960 and 1982, harvests gradually declined. Harvests declined to near 1947 levels during the recession in the early 1980s. Harvests peaked again in 1987 and 1988 when regional harvests exceeded 1,400,000 mbf per year. Thus, the volume of timber harvests of the North Coast Region closely follows the expansion and contraction of the regional and national economy, despite the dramatic decline in the volume of timber harvests dating from the late 1950s.

Of the three counties of the North Coast Region, the annual volume of timber harvest from Humboldt County has

consistently been the most significant share of the region's total, fluctuating between approximately 40 and 70 percent. Moreover, the timber harvests in Humboldt County historically have accounted for approximately 20 to 25 percent of the state's annual timber harvest (California Board of Equalization, 1996). In 1997, the total timber volume harvested represented 22 percent of the total California harvest volume (California Board of Equalization, 1997).

In contrast to other timber regions of California, harvests on privately owned commercial forest lands dominate the timber industry in the North Coast Region, especially Humboldt County. Over 55 percent of the land area of Humboldt County is private timberland and another 17 percent is administered by the Forest Service or BLM. In 1994, the ownership of timberlands in the county was as follows: the Forest Service, 262,000 acres; BLM, 13,000 acres; state agencies, 1,000 acres; local governments, 1,000 acres; privately owned commercial timber companies, 608,000 acres; farmers and private individuals, 290,000 acres; and Native Americans, 110,000 acres (Waddell, 1996).

Over the past 130 years, the types of trees harvested in the North Coast Range have changed. In the last century, the timber industry in this region was almost exclusively old-growth redwoods, despite the abundance of old-growth fir and other valuable timber species. When access to the old-growth redwoods became more difficult and easily accessible supplies dwindled, loggers started to harvest old-growth Douglas-fir trees in addition to the old-growth redwoods. By the 1960s and 1970s, loggers increasingly were harvesting young-growth redwoods as well. In Humboldt County, old-growth redwoods comprised 75 percent of total 1976 harvest volumes and declined to less than

**Table 3.13-6. North Coast Region and Humboldt County Timber Harvest Volumes, 1947 to 1997**

Year	Counties			Humboldt		
	Regional Total	Del Norte	Mendocino	Humboldt	County	Humboldt County
		(Thousand board feet, local scale)			Share of Total	Private      Public
1947	716,544	23,398	211,801	481,345	67%	NA      NA
1948	1,213,240	34,471	315,631	863,138	71%	NA      NA
1949	1,245,916	61,361	364,772	819,783	66%	NA      NA
1950	1,513,595	141,995	509,915	861,685	57%	NA      NA
1951	1,910,075	174,451	752,964	982,660	51%	NA      NA
1952	2,070,158	203,834	805,437	1,060,887	51%	NA      NA
1953	2,540,508	288,912	927,191	1,324,405	52%	NA      NA
1954	2,498,049	240,193	993,734	1,264,122	51%	NA      NA
1955	2,634,408	305,741	1,030,321	1,298,346	49%	NA      NA
1956	2,474,424	234,779	990,027	1,249,618	51%	NA      NA
1957	2,204,794	201,179	791,690	1,211,925	55%	NA      NA
1958	2,603,414	283,132	795,632	1,524,650	59%	NA      NA
1959	2,539,091	336,862	632,121	1,570,108	62%	NA      NA
1960	2,028,917	258,028	635,473	1,135,416	56%	NA      NA
1961	2,177,895	229,669	683,262	1,264,964	58%	NA      NA
1962	2,365,827	192,287	726,596	1,446,944	61%	NA      NA
1963	2,164,558	283,132	634,145	1,247,281	58%	NA      NA
1964	2,316,028	336,862	611,328	1,367,838	59%	NA      NA
1965	2,099,550	258,028	540,226	1,301,296	62%	NA      NA
1966	1,936,953	229,669	486,948	1,220,336	63%	NA      NA
1967	1,931,702	303,846	493,473	1,134,383	59%	NA      NA
1968	2,088,647	302,014	560,985	1,225,648	59%	NA      NA
1969	1,960,609	269,801	525,123	1,165,685	59%	NA      NA
1970	1,695,009	210,466	478,471	1,006,072	59%	NA      NA
1971	1,745,168	236,027	491,336	1,017,805	58%	NA      NA
1972	1,868,365	240,165	540,345	1,087,855	58%	NA      NA
1973	1,845,661	216,881	529,869	1,098,911	60%	NA      NA
1974	1,772,652	229,769	519,279	1,023,604	58%	NA      NA
1975	1,654,740	208,885	490,542	955,313	58%	NA      NA
1976	1,774,807	242,547	573,106	959,154	54%	NA      NA
1977	1,786,311	265,391	617,393	903,527	51%	NA      NA
1978	1,397,242	355,011	454,653	587,578	42%	518,492      69,086
1979	1,092,426	293,515	333,944	464,967	43%	399,983      64,984
1980	997,857	229,428	343,200	425,229	43%	342,898      82,331
1981	936,369	180,937	346,905	408,527	44%	335,544      72,983
1982	787,840	115,714	310,236	361,890	46%	330,928      30,962
1983	1,033,580	157,431	386,714	489,435	47%	414,520      74,915
1984	1,118,391	199,425	449,311	469,655	42%	405,494      64,161
1985	1,175,141	202,867	424,943	547,331	47%	455,621      91,710
1986	1,269,382	189,008	423,042	657,332	52%	570,759      86,573
1987	1,428,185	178,000	477,364	772,821	54%	644,190      128,631
1988	1,409,262	191,916	474,293	743,053	53%	641,132      101,921
1989	1,301,410	122,893	515,299	663,218	51%	576,552      86,666
1990	1,203,856	171,262	422,732	609,862	51%	583,779      26,083
1991	856,991	122,855	274,986	459,150	54%	432,539      26,611
1992	820,527	94,337	250,897	475,293	58%	465,739      10,554
1993	817,239	97,414	254,895	464,930	57%	457,676      7,254
1994	799,122	83,338	227,416	488,368	61%	492,137      2,091
1995	767,384	64,036	211,583	491,765	64%	484,192      7,573
1996	853,218	60,105	275,589	517,524	61%	509,865      7,659
1997	821,675	46,658	243,866	531,151	65%	519,678      11,473

Note: Public and private harvest volumes for 1995 through 1997 are calculated based on percentages published by the California Board of Equalization.

Sources: California Board of Equalization, Planning, and Research Division as published in Waddell and Bassett, 1996 and Report YT-36, California Board of Equalization, Planning and Research Division, 1995, 1996, and 1997.

50 percent during the mid-1980s. Today, more young-growth redwood trees are harvested than are old-growth redwood trees. For 1997, 87 percent of the redwood timber harvested in Humboldt County was young growth and 13 percent was old growth (California Board of Equalization, Timber Tax Divisions 1997 YT-35 Report).

Seasonal weather conditions also affect the period of time during which timber harvests occur. In the North Coast Region, harvest workers do not work as many hours during the rainy, winter months of the year. During the 9- to 10-month harvest season, laborers must work hard to ensure harvest volumes are sufficient to meet anticipated demand for lumber during the following 6 to 12 months. In contrast, timber harvests are processed by mills nearly year-round, an average of 233 days per year (Ward, 1995). As such, one year's net harvest volume does not compare to the net volume of mill production during the same period of time.

### **Sawmills**

As a significant percentage of the total timber harvested in California comes from the commercial forest lands of the North Coast Region, so too does the region have a significant proportion of the state's timber mills. In 1992, there were 31 timber mills in the three-county region. By type of mill, there were 23 sawmills, no veneer/plywood or post/pole mills, five pulp mills, and three shake and shingle mills (Ward, 1995). Humboldt County mills included 12 sawmills, two pulp mills, one particle board mill, and one shake and shingle mill. In all, the region's mills comprised approximately 40 percent of the total number of mills in the state in 1992. Table 3.13-7 is a recent listing of lumber manufacturers in Humboldt County.

PALCO owns or supplies five sawmills in Humboldt County. In general, each mill specializes in a particular size and species of timber, though not exclusively (Harris,

1996). Mill A processes Douglas-fir trees, and Mill B processes large redwoods. Both Mill A and Mill B are located in Scotia, the long-time PALCO company town. The mill in Arcata processes small-diameter redwood logs, primarily for fencing supplies. Small-, medium-, and large-diameter logs are processed at the Fortuna and the Carlotta mills. The Carlotta Mill was originally constructed by Louisiana Pacific and later purchased by PALCO. Virtually all timber harvested from PALCO timberlands is processed in these mills.

In comparison to other timber regions of California, most of the timber harvested in the North Coast Region is processed by mills within the region. In 1992, approximately 90 percent of the region's timber was processed within the region and 76 percent of the timber harvest in Humboldt County was processed by local mills (Ward, 1995). In 1994, approximately 88 percent of the region's timber was processed within the region, and 77 percent of the harvest in Humboldt County was processed in the county (Ward, 1977). Logs exported outside of the region are processed in specialized mills in nearby counties, in the Klamath Valley in southern Oregon, as well as other countries including Canada and several Asian nations. The local timber mills, however, are not solely dependent upon timber harvests from the region. In fact, the region is a net importer of timber. In 1994, 680,450 mbf were harvested in Del Norte, Humboldt, Mendocino, and Sonoma counties, yet the region had more than 769,000 mbf (Ward, 1997). The timber mills in Humboldt and Del Norte counties processed timber from the region as well as timber from Shasta, Trinity, and Butte counties, and other areas out-of-state (Ward, 1995 and 1997).

To accommodate industry changes, annual fluctuations in harvest volumes, and

**Table 3.13-7. Lumber Manufacturers in Humboldt County, 1996**

<b>Community</b>	<b>Lumber Manufacturers</b>	<b>Type</b>	<b>(MBFN)</b>
Alton	Eel River Sawmills Inc.	Sawmill	NA
Arcata	Amarant Wood Products	Shake & Shingles	1,500
	Beaver Lumber of Arcata	Sawmill	NA
	Blue Lake Forest Products	Sawmill	46,000
	Britt Lumber Company	Sawmill	38,000
	Chambers Wood Products	Lumber Manuf.	NA
	Dorris Wood Products	Lumber Manuf.	NA
	J. Miller Co.	Lumber Manuf.	NA
	Louisiana -Pacific Corp.	Particle Board	NA
	Mission Lath	Lumber Manuf.	NA
	Northcoast Hardwoods Inc.	Sawmill	NA
	Rasmussen Wood Products Inc.	Lumber Manuf.	NA
	Sierra Pacific Industries	Sawmill	NA
Blue Lake	A & B Milling Inc.	Lumber Manuf.	NA
	J & S Stakes	Lumber Manuf.	NA
	PJ Wood Products, Inc.	Sawmill	NA
Carlotta	The Pacific Lumber Co.	Sawmill	NA
Eureka	Arcata Redwood Co.	Sawmill	41,000
	Cal-Tex Lumber Co.	Sawmill	NA
	Schmidbauer Lumber Co.	Sawmill	53,700
Fortuna	CW Wood Products	Sawmill	NA
	Eel River Sawmills Inc.	Sawmill	120,000
	The Pacific Lumber Co.	Sawmill	NA
Korbel	Simpson Timber Co.	Sawmill	206,000
	Simpson Timber Co.	Sawmill	160,000
Miranda	Tosten Brothers Lumber	Sawmill	NA
Redcrest	Eel River Sawmills Inc.	Sawmill	79,000
Samoa	Louisiana-Pacific Corp.	Sawmill	NA
	Louisiana-Pacific Corp.	Pulp & Paper	NA
Scotia	The Pacific Lumber Co.	Sawmill (2)	364,000
Trinidad	Louisiana-Pacific Corp.	Sawmill	20,000
Whitethorne	Buckskin Redwood Products	Shake & Shingle	NA
Sources: Wood Technology, 1996; Pacific Northwest Forestry Directory, 1996-97 Edition, 1996; and the 1997 Humboldt County Phone Book.			

seasonal constraints, the capacity of timber mills must be flexible. Sawmills in the North Coast Region typically operate approximately 233 days per year, though certain classes of mills may operate only 170 days per year (Ward, 1995). Average annual mill capacity is generally measured in terms of a single eight-hour shift. Some mills, however, operate using longer shifts and multiple shifts per day, especially for short periods of time to accommodate fluctuating supplies of timber and demand. In 1992, the average number of shifts per day in the North Coast Region was 1.5 (Ward, 1995).

The capacity and production of timber mills also depends on the type of logs processed. In particular, sawmills for old-growth timber must accommodate the large diameter of tree trunks. The sawmills that handle the large old-growth trees cannot efficiently handle smaller-diameter, young-growth trees. And, mills that handle the young-growth trees usually can rely more upon equipment than labor during processing due to the smaller trunk size (Stewart, 1993). In addition, some mills are designed to primarily process only one type of tree species, such as Douglas-fir or redwood.

Despite the influence of timber harvests in determining mill production, mill employment is not directly related to harvest volumes (Stewart, 1993). There are a certain number of mill jobs that are required to be filled no matter the level of production. The need for additional workers to operate equipment is more dependent upon production volumes. As such, increases in the volume of timber production require proportionately smaller increases in workers. Since Humboldt County is a net importer of timber for processing, local employment is determined by local harvest levels and imports. Mills that handle old-growth trees generally require more workers than young-growth

mills, which increasingly are using machinery to guide the smaller-diameter logs through the production line. Employment also fluctuates due to the annual and seasonal uneven flow of logs to mills. In addition, employees required to operate a second shift may work sporadically in comparison to workers required to work longer shifts.

In the North Coast Region, the capacity of sawmills is even more closely tied to the dynamic fluctuations of harvest volumes. The predominance of privately owned commercial timberland means that harvest levels are determined by indicators of future market demand. In contrast, the management and harvest of timber on public lands is determined by multiple factors, and not necessarily anticipated demand for wood products. To avoid significant production fluctuations, underutilized plant capacity, and steady profitability, mill owners may increase their purchases of timber from within or outside of the region to maintain constant sawmill productivity (Ward, 1995).

In 1976, there were approximately 200 mills operating in California (Hiserote and Howard, 1978). Since then, the number of mills in operation has steadily declined. Today, there are an estimated 68 timber mills currently in operation in the state (California Forestry Association, 1996). An estimated 51 timber mills closed across the state between 1987 and 1995 and four reopened between 1989 and 1995 (California Forestry Association, 1996). In the North Coast Region, there were 48 mills operating in 1988 (Ward, 1991) 31 mills in 1992 (Ward, 1995) and 31 mills in 1994 (Ward, 1997). During this time, 13 of the 17 mills closed were sawmills. Three mills closed in Del Norte County, two mills closed in Humboldt County, and seven mills closed in Mendocino County during this time period. With the mill closures, it has

become more common for timber to be transported longer distances for processing.

There are a number of reasons for these mill closures. For many mill owners, the shift from predominantly old-growth to young-growth timber has significantly reduced the flow of logs to the specialized old-growth mills. The significant decrease in timber harvests since the late 1950s and especially the small harvests during the recession of the early 1980s resulted in temporary mill closure or bankruptcy. In contrast, the slow market during these recessionary years was the impetus for many owners to re-tool mills for young-growth trees. The prospect of expensive re-tooling costs, however, forced many owners to permanently close their operations. The closure of competing mills also encouraged owners of profitable mills to consider expanding mill capacity. More recently, however, the passage of environmental regulations to protect endangered species has dramatically reduced logging in National Forests and has particularly affected mills located in regions dependent on harvesting publicly owned timberlands.

### **Future Trends**

The recent changes in timber harvest levels and mill production in the North Coast Region described above will continue to influence the region's timber industry and shape the industry. The following are key expected future trends (Krumland and McKillop, 1987; Stewart, 1993):

#### **HARVESTS**

- Decreased harvests on National Forest System lands due to environmental regulations and multiple management objectives.
- Increased reliance upon harvests from privately owned commercial forest land to meet the demand for lumber.
- Increased consolidation of privately owned timberland.

- Increased likelihood that privately owned, non-commercial timberlands will be harvested for old-growth as the supply of commercial old-growth timber is depleted.

#### **SAWMILLS**

- Continued closure of inefficient sawmills as well as old-growth sawmills.
- Increasing dependence of sawmills upon lands other than their own company holdings to supply timber for processing.
- Increased transportation of harvested timber to distant sawmills.
- Continued retrofitting of sawmills to accommodate young-growth trees.
- Increased use of equipment and technology to process young-growth trees.
- Decreased employment opportunities as transition is made to young-growth timber harvests.
- Increased employment dependence upon the volumes of timber processed rather than local timber harvested.

### **3.13.1.5 Government Taxes and Revenues**

The following section describes the potential federal, state, and local government revenues that may be affected by the proposed action and alternatives. Specific issues discussed include federal payments in lieu of taxes, the California Timber yield tax, and local property and sales taxes.

The commercial forest lands are acquired from PALCO and the Elk River Timber Company; as proposed, these lands would be owned jointly by the federal government and the State of California. Moreover, the acquired land would not be managed for timber production. As such, none of the proposed alternatives evaluated in this document would affect current or future



county revenue from the Forest Service's 25 percent Fund.

### **Federal Payments in Lieu of Taxes**

The proposed acquisition of PALCO and Elk River Timber Company forest lands would affect payments in lieu of taxes (PILT) revenue received by Humboldt County. In 1976, Congress passed the PILT Act to provide revenue to counties containing federal lands. The Act primarily allows counties to receive revenues to compensate them for the loss of potential property taxes on federal lands within the county. In addition, the Act provides compensation to counties when private lands have been acquired by the federal government.

The PILT Act authorizes payment based on a flat, annual, per-acre payment. The program is administered by the BLM and applies to almost all federal lands. The revenue is a fairly steady stream of income for local governments and has no expenditure limitations.

Section 2 in Chapter 69, 31 U.S.C., provides for payment to local units of government based on the total number of acres of "entitlement lands." The regulations provide for payment under two alternative formulas. Option A allows payment at 75 cents per acre minus payment received the prior year. Option B allows payment at a flat 10 cents per acre. Amendment of the regulations in 1995 set higher rates for each of the following five years. In addition, the regulations allowed the rates to be annually adjusted for inflation. The actual payments distributed from the U.S. Treasury, however, depend upon annual appropriations by Congress. In recent years, appropriation levels have been below authorized levels. For example, the payment rates in 1996 were set at \$1.16 and \$0.16 per acre, but Congress appropriated payment at only 68 percent.

In addition to payments for "entitlement lands," two other sections of the regulations

provide for special compensation payments. Section 4 authorizes payments for any lands or interest acquired after December 31, 1970. Payments are based on one percent of the fair market value of the lands at the time of acquisition, but may not exceed the amount of real property taxes assessed and levied on the property during the previous five full fiscal years. The proposed forest land acquisition would allow Humboldt County to receive such payments. Section 5 of the regulations specifically provides local governments with payments as compensation for the acquisition of land for the Redwood National Park. For Humboldt County, this portion of the annual PILT payment currently totals \$1,534,070, the majority of total payments received by the county.

### **California Timber yield tax**

The several harvest levels proposed in the alternatives could affect state and local government tax revenues from the Timber yield tax. Historically, privately owned commercial forest land was taxed by the state using an ad valorem tax adopted in 1926. This tax assessed the value of timber acreage as well as the value of the timber growing on the property. In this way, the assessed value of the land was similar to any commercial real estate. To encourage owners of timberlands to cultivate mature trees, the value of timber from stands less than 40 years of age was exempt from taxation. Despite this tax relief, the tax placed an extremely heavy burden on owners of mature-growth timberlands.

To alleviate this situation, the ad valorem tax was repealed in 1976 with the adoption of the California Forestry Taxation Reform Act (Act). This Act separated the taxation of commercial forest land from the taxation of standing timber. The taxation of forest lands was delegated to local county governments in the form of property taxes (see discussion below), and the taxation of harvested timber

was delegated to the Timber Tax Division of the California Board of Equalization.

The latter tax, known as the California Timber yield tax, is assessed based on the value of harvested timber, not the value of growing trees. To take advantage of this taxation reform, owners of commercial forest land must have their property designated as Timber Production Zone (TPZ) by the local county planning department. The assessment of the value of harvested timber is based on market rates, and the tax rate is 2.9 percent of the total harvest value. The Timber yield tax is paid by the owner of privately owned commercial forest land or the contractor awarded the bid to harvest timber from publicly owned forest land. Approximately 90 percent of the revenue collected by the Board of Equalization is returned to the county of origin and distributed among the county's taxing entities based on total mills levied. The remainder is kept by the Board of Equalization to cover administrative costs of the Timber Tax Division.

### **Local Government Property Tax**

The proposed acquisition of PALCO and Elk River Timber Company commercial forest land involves the transfer of land ownership from private to public entities and could affect property tax revenues received by local governments. Property taxes are levied on privately owned commercial forest lands based on the estimated assessed value of forest lands. The state annually publishes standardized per-acre values for various classes of timberland. These classes are based on the mix of trees and the productivity of the land. State regulations, however, allow counties to tax the land at a rate of only one percent of the total assessed value. This tax revenue is distributed to the county and its special tax districts based on total mills levied. County governments cannot levy property taxes on publicly owned commercial forest land.

### **Local Government Sales Tax**

The proposed acquisition of PALCO and Elk River Timber Company lands and the implementation of PALCO's proposed HCP and SYP could affect sales tax revenue to Humboldt County. As described above in Section 3.13.1.2, Employment, and Section 3.13.1.3, Income, there is a direct relationship between changes in employment and total wage and salary income. Similarly, changes in income affect expenditures and sales tax revenue generated by those expenditures. In addition, the operation and maintenance of PALCO's logging and sawmill equipment require local taxable expenditures for business supplies, engineering, legal, accounting, and environmental consultant services.

Sales taxes in California are levied at two rates: the state sales tax levy and the local government sales tax levies. The state tax rate is universal, but the local sale tax rates may vary by county and/or city. At this time, the state sales tax rate is six percent, and the Humboldt County sales tax rate is 1.25 percent. Thus, the current total sales tax rate in Humboldt County is 7.25 percent.

Though a portion of the revenue supports local governments, all of the revenue is paid to the California State Treasury on a quarterly basis and is credited to the Local Revenue Fund. The local government sales tax revenue, along with other state-collected local government revenue, is subsequently dispersed semiannually to the counties.

#### **3.13.1.6 Other Social Considerations**

The redwood ecosystem, particularly old-growth groves, is highly valued by people for a variety of non-economic reasons in much of northern California and beyond. To many people, old-growth forest such as those found in the Headwaters elicit a wide range of very strong emotions and thoughts.

To some, including both Native American and non-Native American people (see Section 3.19, Tribal Trust Resources and Other Indian Tribal Issues), old-growth forests have spiritual significance. To others, old-growth forests represent vestiges of a less human-dominated world. Some people view the preservation of old-growth forests as a way to maintain a rare asset for future generations.

The thousands of people from all over the country who attended the protests near the Headwaters over the past several years and the high attendance at scoping meetings are testimony to how deeply many people feel about the Headwaters area. Some people were concerned with the actual Headwaters area itself, and others were more concerned with what it represented as an environmental, spiritual, and philosophical icon. Although it is impossible to quantify such values, it is important to realize the range associated with old-growth groves such as those in the Headwaters area.

### **3.13.2 Environmental Effects**

This section describes the potential effects on the economic and social environment from the alternatives associated with the HCP, SYP, and the proposed PALCO land acquisition. The discussion is based on the affected economic and social environment described in Section 3.13.1. In this section, economic and social topics addressed included population, employment, personal income, the timber industry, and government taxes and revenues. The scope of the affected environment section discussion started with general statistics and characteristics of the Project Area and then proceeded to more-detailed analysis based on the particulars of the project alternatives.

In the environmental effects section, however, the order of the discussion is reversed. This section begins with a

discussion of the potential effects on local and regional timber harvests. The forecasted volumes of timber harvest heavily influence the local demand for lumber and wood products employees and the amount of personal income flowing to county residents. If employees or contractors are laid off as a result of reduced harvest volumes, workers may seek other employment opportunities in the county or elsewhere. If workers find jobs outside of the county, then they may commute long distances or relocate family members. Smaller timber harvest volumes would be expected to reduce company expenditures for local goods and services. In addition, wage and salary income for workers who move away would no longer flow to area businesses. In turn, this change might also cause area businesses to close and employees and their families to relocate. Thus, the order of topics discussed in the environmental effects section has been reversed to reflect the causal relationships among job opportunities, employment, wage and salary income, and population.

Following these analyses is a discussion of potential effects on government taxes and revenues that would result under each of the five project alternatives. Proposed alternatives could affect revenues from federal PILT, the California Timber yield tax, Humboldt County TPZ property taxes, and local government sales tax. The text below generally describes social and economic effects on state and local taxes, as indicated by regulations and thresholds of significance.

### **Social and Economic Effects**

Both the NEPA and CEQA regulations address social and economic effects and the potential significance of these effects (Bass et al., 1996). Under NEPA, social and economic effects are not intended to be a decision-making factor to prepare an EIS, but should be discussed as a result of

natural and physical changes in the environment when an EIS is required [40 CFR Sec. 1508.14]. In contrast, potential economic and social effects resulting from project alternatives may be discussed under CEQA, but are not considered significant effects on the environment [Guidelines Sec. 15064(f)]. In sum, changes in the economic and social environment may be used to determine if a physical impact is significant and would contribute to the overall understanding of potential environmental impacts resulting from the proposed action.

In a similar fashion, the proposed cash purchase of PALCO and Elk River Timber Company commercial forest lands would not be considered an impact to either the federal or state governments. The decisions to acquire the land with cash, as opposed to other types of assets, were made without making changes to currently approved budgets. As such, the use of cash would not affect the revenue or expenditures of either government and, therefore, is not discussed further in this section.

### Thresholds of Significance

Though economic or social effects are not considered significant in relation to the preparation of a NEPA or CEQA document, research of historic trends and calculations of statistically significant values are used to determine which economic and social effects are relevant in terms of evaluating natural and physical impacts of project alternatives. Typically, the threshold for significant changes in economic or social characteristics are those that exceed five percent of the total value. For example, changes in population equal to five percent typically may migrate into a community and find housing without much difficulty, considering that housing vacancies typically are five to seven percent. Similarly, economists have observed that unemployment rates during economically healthy periods approximate five to six percent. Historic values, however, may

fluctuate widely. An example would be a manufacturing plant, which is designed to efficiently operate based on a range of production inputs or outputs. In this way, historic fluctuations are considered the norm and fluctuations greater than the historic values are considered abnormal, or statistically significant.

The analysis of potential social and economic effects focuses on five key issues, each with its own threshold(s) of significance. The analyses evaluate potential effects on the timber industry, employment, personal income, population migration, and government taxes and revenues to local governments. The following bullets identify key thresholds of statistical significance for the five criteria.

- **Timber industry** - (1) greater than a 20 percent change in the mean volume of timber harvested over the past 10 years in Humboldt County and (2) likely qualitative effects on the availability of redwood timber in the state of California that could result in increased costs
- **Employment in timber-related jobs** - (1) greater than a seven percent statistical change in the average annual employment in the lumber and wood products industry in Humboldt County and (2) greater than a five percent statistical change in the average annual employment in all sectors of the economy in Humboldt County
- **Wage and salary income** - likely qualitative effects on personal income of unemployed lumber and wood products workers
- **Population** - changes in the anticipated rate of population growth currently forecasted for Humboldt County due to the potential loss of timber-related employment, such that the forecasted population growth rate of Humboldt County would be negative

- **Tax revenues to Humboldt County** - greater than a five percent statistical change in the total annual revenue received by Humboldt County due to changes in PILT, timber yield, property taxes, and sales taxes revenues.

### 3.13.2.1 The Timber Industry

Each of the alternatives has different constraints regarding the number of acres to be acquired for the proposed Headwaters Reserve, forest land management practices, and projected harvest volumes and rates. For each alternative, PALCO has modeled the total anticipated volume of timber that would be harvested from PALCO lands, including acquired Elk River Timber Company lands. Table 3.13-8 compares historic and forecasted harvests for PALCO and Elk River Timber Company lands and for Humboldt County. Historic (1988 to 1997) harvests on PALCO lands have been approximately 250,000 mbf per year (Personal communication, T. Herman, PALCO, August 21, 1998). For purposes of analysis, historic harvest levels are assumed to be the average of forecasted harvests of decade one under Alternative 1. This is an estimated 10,500 mbf per year.

Harvest volumes are presented only for the first decade of the 120-year planning period of the SYP. Comparison of historic data with forecast volumes beyond 10 years would be speculative. This is the short-term analysis period used in this document. In addition, forecasted harvest levels by county are not readily available.

The analysis assumes that future harvests from public forest lands would be similar to harvest volumes for the past five years, approximately 7,210 mbf per year (Table 3.13-6). As such, it represents historic harvest levels since the federal listing of the northern spotted owl. For purposes of analysis, forecasted harvests on all private lands are, however, assumed to be similar

to the historic 10-year average annual harvest volume.

This last assumption to keep private harvest levels constant in the future probably does not accurately reflect the dynamic relationship among supply, demand, and price. A decrease in supply of timber from PALCO timberlands would create a scarcity of timber, especially redwood logs, and would exert upward pressure on the price of timber. As the price of most lumber is set by natural, if not international, timber markets, higher stumpage prices would most likely be limited to redwood stumpage prices. Depending on the demand for timber generally, and redwood more specifically, this price shift would provide incentive for other private timberland owners to harvest larger quantities of timber. Forecasting the interrelationships between these market forces, however, would be speculative. It has therefore been excluded from the analysis below.

Between 1988 and 1997, harvest volumes from all private lands in Humboldt County ranged between 641,132 mbf (in 1988) and 432,539 mbf (in 1991) (Table 3.13-6). The mean volume of timber harvested was 516,329 mbf per year. The average harvest volume is more than 16,000 mbf higher than the median volume (501,000 mbf) and reflects the large harvests prior to the economic recession in the early 1990s and the effects of listing the northern spotted owl. Variation from the mean of all private harvests was approximately 20 percent. Assuming harvests on public lands would be constant at 7,210 mbf per year, then forecasted Humboldt County timber harvests, including PALCO and Elk River Timber Company harvests, that are greater than approximately 628,000 mbf or lower than approximately 419,000 mbf should be considered statistically significant. The following sections describe the potential

**Table 3.13-8. Humboldt County Forecast Average Annual Harvest for Decade 1**

	Dates	Humboldt Co.					Comparison to Historic		Effect on California (MBF/YR)
		Public (MBF/YR)	Private (MBF/YR)	Elk River (MBF/YR)	PALCO (MBF/YR)	Adj. Total (MBF/YR)	PALCO (MBF/YR)	Humboldt (MBF/YR)	
<b>Historic</b>									
	1988-1997	7,210	255,829	10,500	250,000	523,539	NA	NA	NA
<b>Forecast</b>									
<b>Alt. 1</b>	2003-2012	7,210	255,829	11,415	171,252	445,706	68.5%	85.1%	-3.0%
<b>Alt. 2</b>	2003-2012	7,210	255,829	-	233,519	496,558	93.4%	94.8%	-1.0%
<b>Alt. 2a</b>	2003-2012	7,210	255,829	11,415	221,481	495,935	88.6%	94.7%	-1.1%
<b>Alt. 3</b>	2003-2012	7,210	255,829	-	86,878	349,917	34.8%	66.8%	-6.6%
<b>Alt. 4</b>	2003-2012	7,210	255,829	5,875	165,021	433,935	66.0%	82.9%	-3.4%
<p>Note: The average annual harvest volume is calculated based on the period 1988 to 1997. In the case of public harvests, though, the protection of the northern spotted owl has significantly reduced harvests in the North Coast Region. As such, the average annual harvest volume for public land is calculated based on the past five years, 1993 to 1997. The average annual volume for private forest land excludes PALCO and Elk River historic averages. The PALCO average annual volume over the past 10 years was provided by PALCO (Personal communication, Tom Herman, PALCO, August 21, 1998). The forecast average annual adjusted total volume is based on projected PALCO harvests for the period.</p> <p>The historic harvest volumes for Elk River Timber Company are an estimate based on the average of the average annual harvest forecast for the next 20 years.</p> <p>Forecast decreases in annual harvest levels in California are calculated based on the county's historical production of 20 to 25 percent of the state's total timber harvest.</p> <p>Sources: Waddell and Bassett, 1996; California Board of Equalization, 1995 and 1996.</p>									

effects on the timber industry of each of the alternatives.

### **Alternative 1 (No Action/No Project)**

The state and federal assumptions for assessing environmental impacts to aquatic resources under the No Action alternatives differ based on the analytic approaches required by CEQA and NEPA. CEQA implementing regulations require that an EIR discuss “the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved [14 C.C.R. 15126(d)(4)].” CEQA neither requires a projection into the long-term future that could be deemed speculative, nor a quantitative analysis of the No Action/No Project alternative for comparison with the other alternatives. Accordingly, the state version of the No Action/No Project alternative analyzed here contemplates only the short term and is based on individual THPs that would be evaluated case by case. The CDF version of No Action/No Project does not attempt to forecast how PALCO’s entire property would look in 50 years (the length of the proposed ITP). Since it is unknown how many THPs there would be, where they would lie geographically, and how they would differ in detail, no quantitative analysis of THPs is presented (see Section 2.5).

Under the likely No Action/No Project alternative, PALCO would operate in a manner similar to current THP practices and subject to existing CDF regulatory authority. In reviewing individual THPs, CDF is required to comply with the FPA, FPRs, and CEQA through its certified functional equivalent program (see Section 1.6). The specific criteria for evaluating THPs contained in the FPRs are combined with the case-by-case evaluation of each THP for significant effects on the environment, followed by consideration of alternatives and mitigation measures to substantially lessen those effects. Under

CEQA and the FPRs, CDF must not approve a project including a THP as proposed if it would cause a significant effect on the environment, and a feasible alternative or feasible mitigation measure is available to avoid or mitigate the effect. An adverse effect on a listed threatened or endangered species would be a significant effect under CEQA.

In addition, under the present FPRs, the Director of CDF shall disapprove a THP as not conforming to the rules if, among other things, the plan would result in either a taking of or a finding of jeopardy to wildlife species listed as rare, threatened, or endangered by the Fish and Game Commission or a federal fish or wildlife agency or would cause significant, long-term damage to listed species. To determine the effect of a THP on listed fish or wildlife species, CDF routinely consults with state and notifies federal fish and wildlife agencies. These processes and independent internal review by CDF biologists can result in a THP containing additional site-specific mitigation measures similar to those described under the Proposed Action/Proposed Project. CDF believes that its existing process using the FPRs and the CEQA THP-by-THP review and mitigation are sufficient to avoid take of listed species.

The mitigation by which an individual THP is determined to comply with FPRs, the federal and California ESAs, and other federal and state laws is determined first by compliance with specific standards in the FPRs and then by development of site-specific mitigation measures in response to significant effects identified in the CEQA functional equivalent environmental analysis of the individual THP. A wide variety of detailed mitigation measures tailored to local conditions is applied with the purpose of avoiding significant environmental effects and take of listed species. These include, but are not limited

to, consideration of slope stability, erosion hazard, road and skid trail location, WLPZ width, BMPs on hillslopes and within WLPZs, and wildlife and fish habitat. Consequently, most significant effects of individual THPs can be expected to be mitigated to a level of less than significant through implementation of the No Action/No Project alternative. In some cases, CDF may determine that it is not feasible to mitigate a significant effect of a THP to a level of less than significant. In such a situation, CDF would have to determine whether specific provisions of the FPRs such as not allowing take of a listed threatened or endangered species would prohibit CDF from approving the THP. If approval is not specifically prohibited, CDF would have to weigh a variety of potentially competing public policies in deciding whether to approve the THP. A THP with a significant remaining effect could be approved with a statement of overriding considerations, but such an approval would probably be rare.

As noted in Section 2.5, under NEPA, the degree of analysis devoted to each alternative in the EIS will be substantially similar to that devoted to the Proposed Action/Proposed Project. The federal agencies recognize that a wide variety of potential strategies could be applied that could represent a No Action/No Project scenario and that they would involve consideration of the same mitigation measures as described above. For the purposes of analysis under NEPA, however, these additional mitigation measures are represented as RMZs, rather than management options developed for site-specific conditions. Consequently, the analysis of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs, as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of RMZ width are considered qualitatively because it is

expected that adequate buffer widths could vary as a result of varying conditions on PALCO lands.

Assuming the wide RMZs, PALCO harvest volumes under this alternative would average 171,252 mbf per year for the first decade of the planning period, 2003 to 2012, assuming wide RMZs (Table 3.13-8). This volume would represent approximately 38 percent of the estimated average annual harvest volume for all of Humboldt County. Elk River Timber Company harvests would be an estimated 11,415 mbf per year, representing about 2.6 percent of the total adjusted countywide harvest. Total countywide harvest volumes, however, would be approximately 85 percent of the historic average annual timber harvest volume, but within historic ranges. In contrast, the forecasted timber harvest for PALCO lands would be approximately 69 percent of historic PALCO volumes.

Considering this large reduction in PALCO timber harvest levels anticipated during the first decade, there could be adverse effects on the California timber industry. If historic trends continue, Humboldt County timber harvests would represent approximately 20 percent of total state harvest volumes (California Board of Equalization, Timber Tax Division, YT-36 Report Series), and timber harvests on PALCO forest lands would account for slightly less than half of the county's total harvest volumes (Table 3.13-8). As such, PALCO harvests have comprised between an estimated 10 and 12 percent of the state's annual timber harvest volumes. Using this analysis, the forecasted 31.5 percent decrease in PALCO timber harvest volumes in decade one of Alternative 1 would reduce the total volume of timber harvested in California by about three percent. This effect would not be expected to increase the price of lumber due to the shortage of lumber, except perhaps for redwood products.



In contrast, if the narrower RMZs potentially allowed for individual THPs are assumed for a similar site, the 40 to 50 percent reduction in the width of the buffer would result in an increase of harvestable acreage by an estimated 15 percent. Assuming timber productivity is uniform for the site, then total timber harvest volume would increase by an additional 15 percent compared to estimated timber harvest volumes calculated using the wide, no-harvest RMZ buffers. For PALCO, this difference is significant and directly affects revenue to the company. As PALCO harvests have historically comprised nearly half of the county's total harvests, a 15 percent increase would raise total county harvests by as much as 7 to 8 percent. A reduction in the width of RMZs would benefit both PALCO and the timber industry of Humboldt County.

### **Alternative 2 (Proposed Action/Proposed Project)**

For this alternative, for the period 2003 to 2012, the estimated average annual harvest volumes on PALCO forest lands would be approximately 233,519 mbf (Table 3.13-8). This harvest level would comprise approximately 47 percent of the total harvest forecasted for the county. This forecast average annual harvest level would be approximately 93 percent of historic harvest levels on PALCO lands, and total county forecast harvest levels would comprise approximately 95 percent of historic county levels. This reduction is small and would not differ markedly from historic variation. Since all of Elk River Timber Company's land would either be acquired by PALCO or government agencies, no separate forecast for Elk River Timber Company harvest volumes is shown.

The forecasted harvest volumes on PALCO timberlands would continue to support the California timber industry. The Humboldt County forecasted timber harvests for the

first decade of the planning period fall within 20 percent of the historic mean value. Results of the Proposed Action would not likely affect the price of timber in California. In all, total supplies of timber in California might decline by an estimated three percent.

### **Alternative 2a (No Elk River Property)**

For this alternative, the PALCO timber harvest levels for the first decade of the planning period would be slightly lower than the volumes proposed for Alternative 2 (Table 3.13-8). From 2003 to 2012, the average annual timber harvest would be 221,481 mbf. This forecasted timber harvest volume for PALCO would comprise approximately 45 percent of the total forecasted county harvest volume.

Under this alternative, the Elk River Timber Company properties are excluded from the PALCO forest land acquisition. Forecasted harvest volumes on these properties would be an estimated 11,415 mbf per year.

The total county harvest volumes for the first decade would be approximately 95 percent of historic levels. The forecasted average annual harvest from PALCO forest lands would be approximately 89 percent of historic values. The countywide timber harvest forecasts are within 20 percent of the historic mean value and would not be expected to affect the supply or cost of timber in the state. In total, the supply of timber in the state might decline by approximately one percent.

### **Alternative 3 (Property-wide Selective Harvest)**

During the first decade of the planning period, the assumed timber harvest volume on PALCO forest lands under Alternative 3 would be the lowest of any of the alternatives (Table 3.13-8). During the first decade, the average annual timber harvest on PALCO forest lands would be 86,878 mbf

and would contribute only an estimated 25 percent of all timber harvested in the county each year. This harvest level would reduce average annual timber production for the county by almost a third and timber production on PALCO forest lands by nearly 65 percent. Under these circumstances, the projected decline in harvest volumes would be greater than the county's historic variation.

Under Alternative 3, the significant reductions in PALCO timber harvests would likely affect the California timber industry. The forecasted 65 percent reduction in PALCO harvest levels could result in a significant decrease in state timber harvest volumes, perhaps as great as 7 percent. This reduction of timber supply would likely affect timber prices in California, especially for redwood. The prescriptions under this alternative would result in a 63 percent reduction in timber harvest on PALCO land in comparison to Alternative 2. Based on the threshold of significance, this reduction in timber harvest volumes is a significant effect.

#### **Alternative 4 (63,000-acre No-harvest Public Reserve)**

Between 2003 and 2012, PALCO would harvest approximately 165,021 mbf per year, approximately 66 percent of historic levels (Table 3.13-8). Under this alternative, PALCO would acquire only a portion of the Elk River Timber Company lands, and the remaining lands would contribute an estimated 5,875 mbf per year to total county harvest volumes. Nearly 38 percent of the forecast countywide harvest levels would originate from PALCO forest lands. Moreover, Humboldt County average annual timber harvests would be approximately 83 percent of historic harvest levels.

Under Alternative 4, PALCO timber harvest volumes are forecasted to decline by an estimated 66 percent of historic volumes

during the first decade of the planning period. This reduction could impact the supply of timber in the county and across the state. Considering historic county trends, these forecasted harvest volumes could result in an estimated four percent decline in total California timber production. In turn, this impact also could result in higher lumber prices. The creation of the larger Reserve under this alternative, compared to Alternative 2, would result in an additional 30 percent decline in PALCO average annual timber harvest during the first decade.

In summary, PALCO harvest levels and forecasted countywide harvest levels during the first decade of the planning period represent a broad range. In comparison to historic harvest levels, the average annual harvest on PALCO forest lands ranges from 86,878 mbf per year (Alternative 3) to 233,519 mbf per year (Alternative 2). Alternatives 1, 3, and 4 would result in PALCO harvest levels at least 30 percent lower than the average annual timber harvest over the past 10 years. Such reductions in PALCO timber harvest volumes could affect the supply and price of lumber statewide. Among the alternatives, forest management practices for Alternatives 2 and 2a allow for the highest average annual PALCO timber harvests. Alternatives 1 and 4 rank as the second-highest average annual harvest levels, and Alternative 3 ranks last. As PALCO timber harvests consistently constitute a major share of countywide forecast average annual timber harvest levels, the alternative(s) with the least effect on countywide harvest levels would be preferred.

#### **3.13.2.2 Employment**

Since the harvest levels for each of the alternatives are lower than historic harvest levels, employment in the lumber and wood products sector of the local economy would be expected to be affected. Table 3.13-9

provides a summary of potential employment effects on PALCO employees, contract loggers, the county's lumber and wood products sector, and the forecasted total employment for Humboldt County. The effects are measured against 1997 employment statistics and average annual harvest volumes for PALCO and Humboldt County over the past 10 years. The analysis is limited to the first decade of the planning period, as forecasting values beyond 10 years would be speculative, especially considering the restructuring of the timber industry at this time.

The total number of workers needed to support average annual timber harvests is based on PALCO averages and countywide ratios. Based on recent employment figures for PALCO, an estimated six workers are required to log and mill 1,000 mbf of timber (PALCO, 1998, Volume I or II). This ratio reflects the fact that PALCO sawmills almost exclusively process timber harvested from PALCO forest lands. In contrast, the countywide ratio is higher. Based on 1996 lumber and wood products employment in Humboldt County, an estimated 8.4 workers are needed for every 1,000 mbf harvested. In part, the ratio of workers is higher countywide because Humboldt County is a net importer of timber for processing (Ward, 1995 and 1997). In addition, the smaller, independent sawmills in the county are more likely to experience greater fluctuations in timber volumes, yet must continue to employ core employees associated with the operation of the sawmill. Such inefficiencies increase the number of employees required to process timber.

Most lumber and wood products workers are employed at sawmills. In 1994, approximately 77 percent of all lumber and wood products workers were employed in the county's sawmills, while only 17 percent of lumber and wood products workers were employed in logging activities (U.S.

Department of Commerce, 1994). An additional six percent of the lumber and wood products employees were working in other categories of the industry sector.

At PALCO, approximately 1,500 workers were employed in 1996 in logging (200) and sawmill operations (1,300) (Personal communication, G. Green, PALCO, June 13, 1997). An additional 200 workers were employed as administration and support staff. PALCO also employed approximately 180 additional contract workers to augment its own logging staff (Personal communication, H. Alden, PALCO, June 13, 1997). Using these data, total employment effects can be evaluated for each of the alternatives.

Employment impacts, however, must also consider potential effects on other workers in the community who may be employed indirectly due to the expenditures of either the timber company or its workers. Most such jobs are related to local spending by the timber company. The company purchases office supplies, equipment, and business services in the local community. In contrast, timber workers spend their income purchasing goods and services from local businesses and send their children to local schools. The term timber-related employment describes both lumber and wood products workers as well as other workers. For Humboldt County, the California Trade and Commerce Agency calculated the multiplier effect of timber-related employment to be 1.65 jobs (direct, indirect, and induced) for each timber industry job.

The following paragraphs discuss the direct and indirect effects and other potential effects on timber-related employment for each of the five alternatives.

### **Alternative 1 (No Action/No Project)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA.

For CEQA, the No Action alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. A wide variety of mitigation measures tailored to local conditions is applied with the purpose of avoiding significant environmental effects and take of listed species. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a level of less than significant through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action alternative considers the implementation of wide, no-harvest RMZs as well as restrictions on the harvest of old-growth redwood forest. Ranges of RMZs are considered qualitatively because it is expected that adequate buffer widths could vary as a result of varying conditions on PALCO lands. In comparison, individual THP RMZs allowed under current FPRs, federal and California ESAs, and other federal and state laws could be up to one-half of the width of the wide, no-harvest RMZs under the NEPA evaluation.

Assuming implementation of the wide, no-harvest RMZs, average annual timber harvests for PALCO during the first decade of the planning period would decrease to 171,252 mbf per year and total employment at PALCO would decline to an estimated 1,028 workers and 120 contract loggers (Table 3.13-9). Whether PALCO would terminate all contract logging workers instead of laying off its own employees is uncertain. Total employment for the county's lumber and wood products sector would decrease from current employment of approximately 4,400 to an estimated 3,744. This assumes other logging operations in the county would not increase their harvesting in response to PALCO's

decreased harvest levels. This estimate also does not recognize any change in lumber and wood products jobs associated with the harvesting and milling of Elk River Timber Company forest lands, because PALCO would not be acquiring these timber lands.

Between 1997 and 2008, a midpoint of the first decade of the planning period, total employment in the county is forecasted to increase from 49,000 to an estimated 56,440. The anticipated loss of lumber and wood products jobs (527 jobs) as well as timber-related employment (.65 multiplier) in the community (343 jobs) would result in an estimated job loss of potentially 12 and 1.6 percent, respectively (Table 3.13-10). This loss of jobs would significantly increase unemployment rates in the lumber and wood products sector, but would not likely affect the county's overall unemployment rate. Under this alternative, the estimated additional volume of lumber required to maintain current levels of sawmill workers at PALCO would be approximately 78,748 mbf per year, or 46 percent more than the projected timber harvest volumes under this alternative. Depending on the place of origin and ownership of purchased timber, local or outside the region, single or multiple owners, the potential PALCO demand for timber also could increase lumber and wood products employment locally or close to where most of the timber would be harvested. The purchase of this additional volume of timber from the local or regional sources, would, however, displace only other sawmill jobs. In contrast, if logs were purchased from Canada or another log-exporting locale, jobs would not likely be displaced.

If the narrower RMZs potentially allowed for individual THPs are assumed for a similar site, an estimated 15 percent increase in timber harvests would similarly affect both direct and indirect employment. PALCO demand for employees as well as

**Table 3.13-9. Humboldt County Forecast Average Annual Employment for Decade 1**

	Dates	Harvests			Employment					L&WP Job Loss				PALCO Purchase MBF/YR)	Share of PALCO Harvest	
		PALCO (MBF/YR)	Elk River (MBF/YR)	County (MBF/YR)	PALCO		Elk River Est.	Humboldt Co.		PALCO & Contract	Elk River	Net	Humboldt County			
					Empl.	Hired		L&WP	Total							
Historic																
	1988-1997	250,000	10,500	523,539	1,500	180	63	4,400	49,000	NA	NA	NA	NA	NA	NA	
Forecast																
Alt. 1	2003-2012	171,252	11,415	445,706	1028	120	68	3,744	56,440	(533)	5	(527)	-12%	78,748	46%	
Alt. 2	2003-2012	233,519	-	496,558	1401	163		-	4,171	56,440	(115)	-	(115)	-3%	16,481	7%
Alt. 2a	2003-2012	221,481	11,415	495,935	1329	155	68	-	4,166	56,440	(196)	5	(191)	-4%	28,519	13%
Alt. 3	2003-2012	86,878	-	349,917	521	61		-	2,939	56,440	(1,098)	-	(1,098)	-25%	163,122	188%
Alt. 4	2003-2012	165,021	5,875	433,935	990	116	35	-	3,645	56,440	(574)	(28)	(602)	-14%	84,979	51%

Note: The historical 1996 total employment was obtained from PALCO (Personal communication, G. Green, June 13, 1997).  
The total number of PALCO and Elk River Timber Company workers is estimated based on the 1996 ratio of total workers per 1,000 mbf of timber harvested (6 workers). Total forecast employment was derived from California Department of Finance Interim County Population Projections (July 1, 1996) for 2008 interpolating an intermediary projection, and assuming 2.5 persons per job, the 1997 ratio of population to jobs and values published by EDD. Though calculated losses of Humboldt County lumber and wood products jobs could be as high as 25 percent (Alternative 3), job losses in comparison to projected total county employment would be less than 2 percent.

Source: State of California, Employment Development Department, 1997.

hired workers would increase by an estimated 15 percent. As PALCO employment comprises approximately a third of total lumber and wood products jobs in Humboldt County, total sector employment in the county could increase by an estimated 5 percent, or several hundred jobs. This also would similarly reduce the potential indirect employment impacts compared to the figures forecasted under this alternative, assuming the wide RMZs.

In sum, the decreases in harvest levels and the resulting effects on employment for this alternative would affect PALCO and the county. Based on the threshold of significance, the loss of lumber and wood products jobs would be a significant effect. In order for PALCO to continue its logging and sawmill operations, key business decisions would have to be considered. The company would likely examine the following: (1) lay off all staff loggers and use only contract loggers as needed, (2) close one or more of PALCO's five sawmills and lay off sawmill workers, (3) purchase large quantities of timber to keep all sawmills operating near capacity, and/or (4) sell forest land to pay down corporate debt on sawmills and equipment placed out of service. These suggested courses of action are, however, speculative, and PALCO would have to decide the most appropriate actions to be taken based on all of the potential effects incurred under this alternative. Similar business decisions would have to be evaluated under each of the alternatives analyzed below.

### **Alternative 2 (Proposed Action/Proposed Project)**

Under Alternative 2, PALCO proposes to harvest 233,519 mbf per year for the first decade of the planning period. This plan would support an estimated 1,401 jobs at PALCO and an additional 163 hired loggers (Table 3.13-9). This forecast includes PALCO workers required to log and mill acquired Elk River Timber Company lands.

Total declines in countywide lumber and wood products employment would be approximately three percent, though overall loss of jobs would comprise less than one percent of total forecast employment for the county. This job loss would also result in a potential loss of an additional 1,017 timber-related jobs. If PALCO were to purchase an additional seven percent of timber per year during this period for processing at its own sawmills, the company might not have to lay off employees.

Some additional road construction jobs would be created under this alternative. Aquatic protection mitigation measures would establish goals for improved armoring of logging roads. In addition, the first several years implementing a development plan for the Headwaters Reserve would involve the restoration of habitat, including the elimination of existing roads within the boundary of the Reserve. Some additional road construction jobs would be created, though fewer than under Alternatives 2 and 3, due to the smaller size of the Reserve. In all, perhaps 20 to 30 road construction jobs would be created.

### **Alternative 2a (No Elk River Property)**

Under Alternative 2a, PALCO would not acquire Elk River Timber Company lands, but harvesting on Elk River Timber Company lands would continue to employ timber workers in the county. For PALCO lands, this alternative would require an estimated 1,329 PALCO and 155 contract workers for logging and milling (Table 3.13-9). This is fewer workers than Alternative 2. This alternative would require an additional 68 loggers for the Elk River properties. Lumber and wood products total employment, for Humboldt County, would be 4,166 workers.

**Table 3.13-10. Humboldt County Forecast Timber-related Jobs and Average Annual Change in Tax Revenue for Decade 1**

		L&WP Jobs	Timber- Related Jobs <sup>1/</sup>	Wage and Salary Income		County Sales Tax Revenue <sup>4/</sup>			
				Direct Jobs <sup>2/</sup>	Timber-Related <sup>3/</sup>				
Historic									
	Elk River	63	104	\$	2,153,781	\$	3,855,268	\$	21,686
	PALCO	1,680 <sup>5/</sup>	2,772	\$	57,434,160	\$	102,807,146	\$	578,290
	Total	1,743	2,876	\$	59,587,941	\$	106,662,414	\$	5,939,976
	County	4,400	7,260	\$	150,422,800	\$	269,256,812	\$	1,514,570
Forecast Change from Historic									
Alt. 1	PALCO	(533)	(879)	\$	(18,221,671)	\$	(32,616,791)	\$	(183,469)
	Total	(527)	(870)	\$	(18,016,549)	\$	(32,249,623)	\$	(181,404)
Alt. 2	PALCO/ Total	(115)	(190)	\$	(3,931,505)	\$	(7,037,394)	\$	(39,585)
Alt. 2a	PALCO	(196)	(323)	\$	(6,700,652)	\$	(11,994,167)	\$	(67,467)
	Total	(191)	(315)	\$	(6,529,717)	\$	(11,688,193)	\$	(65,746)
Alt. 3	PALCO/ Total	(1,098)	(1,812)	\$	(37,537,326)	\$	(67,191,814)	\$	(377,954)
Alt. 4	PALCO	(574)	(947)	\$	(19,623,338)	\$	(35,125,775)	\$	(197,582)
	Total	(602)	(993)	\$	(20,580,574)	\$	(36,839,227)	\$	(207,221)

1/ Timber-related total job loss is calculated using the California Trade and Commerce Humboldt County Lumber and Wood Products employment multiplier of 1.65.

2/ The forecast wage and salary income from L&WP jobs is calculated by multiplying the number of jobs by an estimated 1997 average annual earnings of L&WP jobs (Personal communication, Anita Alexander, California Employment Development Department, June 5, 1998).

3/ The forecast income from timber-related jobs is calculated by multiplying the total wage and salary income for L&WP jobs by the income multiplier 1.79 (Grobey, 1997; Ihara, 1997).

4/ The forecast county sales tax revenue is calculated by multiplying the estimated total wage and salary income for all timber-related jobs by 1.25 percent (the portion of the total 7.25 percent sales tax returned to the county), assuming the county's 1994 ratio of total taxable sales to total wage and salary income remains constant at 45 percent (California Department of Finance, 1995 and 1996). The loss of sales tax revenue is presented in comparison to 1997 values.

5/ Historic PALCO employment includes contract loggers.

Source: Foster Wheeler Environmental Corporation, 1998

Furthermore, PALCO would have to purchase nearly 28,519 mbf of timber annually to maintain current levels of employment. It is quite conceivable that PALCO would pursue the purchase of this additional timber, an additional 13 percent, to sustain current employment levels. As described for Alternative 2, some additional road construction jobs would be created during the first several years following the land acquisition.

### **Alternative 3 (Property-wide Selective Harvest)**

The harvest levels for Alternative 3 would have the most severe effects on local employment. Harvest levels for the first decade would be approximately 37 to 53 percent of projected harvests under the other alternatives. This harvest level likely would support only an estimated average of 521 workers, exclusive of hired loggers (Table 3.13-9). Declines in total lumber and wood products employment in the county during the first decade would be more than 25 percent, though only an estimated 3.2 percent of nearly 1,811 direct and indirect jobs. This change in the county's timber industry would not likely result in significant effects on county employment.

Like the effects described above for the first decade, the dramatic decrease in employment could be avoided if PALCO purchased about 163,000 mbf of timber each year. This volume, however, would be more than twice that harvested on PALCO land. Considering that this change from timber production to primarily sawmill operations would occur in a relatively short time, and that the timber volume would be a major share of total harvest volumes in the county, it is unlikely that PALCO would avoid laying off significant numbers of workers under this scenario.

This analysis of forecasted impact, however, assumes that the same proportion of workers needed for a landscape-level,

selective-harvest program would be the same as under more traditional logging practices. Though there is little literature addressing this issue, it is likely that more workers would be needed to support a given volume of timber harvest spread across a larger geographical area. As such, the forecasted effects on employment are slightly over-estimated in the analysis for this alternative. Based on the thresholds of significance, the loss of lumber and wood products jobs under this alternative would be a significant effect.

Some additional road construction jobs would be created during the first several years following the land exchange. As described for Alternative 2, aquatic protection measures would require additional armoring of PALCO logging roads, and existing logging roads in the Reserve would be removed in an effort to restore the natural habitat.

### **Alternative 4 (63,000-acre No-harvest Public Reserve)**

The acquisition of 63,673 acres by the federal and state governments for the establishment of the Headwaters Reserve would result in average annual harvest levels for the first decade that would be similar to the harvest levels under Alternative 1 and substantially lower than those of Alternative 2 (Table 3.13-9). Between 2003 and 2012, 165,021 mbf would be harvested each year and would support an estimated 970 PALCO workers and 116 contract logging workers. Total county harvest levels would average approximately 433,935 mbf per year. During this first decade, jobs at PALCO, including contract workers, would decline by an estimated 26 percent. This would reduce total county employment of lumber and wood products workers by an estimated 14 percent. If PALCO could annually purchase an additional 84,979 mbf of timber above the assumed annual harvest level of 165,021 mbf, then there would be no effect on



current levels of employees. Considering that this volume of timber would be more than 50 percent of the volume available under this alternative, it is very likely that the company would be unable to sustain current employment levels.

Like Alternatives 2, 2a, and 3, the implementation of Alternative 4 would create road construction jobs for improved armoring of PALCO logging roads and the restoration of old-growth forest habitat. These jobs, however, would be created only for the first several years following the land acquisition. The number of jobs created, however, would likely be greater than under Alternatives 2, 2a, and 3, considering the greatly enlarged size of the Reserve. Based on the threshold of significance, the loss of lumber and wood products jobs under Alternative 4 would be a significant effect.

#### **COMPARISON OF EMPLOYMENT EFFECTS**

The discussion above focuses on the direct relationship between timber harvest volumes and employment (direct, indirect, and induced). For example, the size of the Headwaters Reserve under Alternative 2 (7,503 acres) and Alternative 2a (5,739 acres) appears to be proportional to PALCO employment under these two alternatives—1,401 and 1,329 workers, respectively. The analysis does not evaluate whether the size of the reserve or the forest management practices are more influential factors affecting employment. It does not explain how the potential layoffs might occur over time, or how layoffs might affect different categories of lumber and wood product employees. Furthermore, the analysis does not explain how the layoffs might affect the operation of PALCO's five mills. These employment issues and others are discussed below.

#### **Reserve Versus Forest Management Employment Effects**

A comparison of Alternatives 2 and 3 demonstrates the effects of forest management practices. Both alternatives assume all Elk River Timber Company lands would be acquired by either PALCO or the state and federal governments. In addition, the size of the Reserve under both alternatives would be 7,503 acres. The different forest management practices, however, result in very dissimilar projected timber harvest volumes. Under Alternative 2, timber harvest volumes are projected to be 233,519 mbf per year, compared to only 86,878 mbf under Alternative 3. These dramatically different harvest volumes correlate directly to PALCO lumber and wood products employment levels of 1,401 and 521 workers, respectively.

Similarly, Alternatives 1 and 4 demonstrate the effects of forest management practices despite the establishment of the Reserve. Projected PALCO harvest volumes are 171,252 mbf per year for Alternative 1 and 165,021 mbf for Alternative 4. Under Alternative 1, no Elk River Timber Company timber lands are acquired by PALCO or the state and federal governments, and no Reserve is established. Under Alternative 4, only a portion of Elk River Timber Company lands are acquired. The major difference between the two alternatives, however, is the absence of a Reserve under Alternative 1 and establishment of the 63,673-acre Reserve under Alternative 4. The similarity in timber volumes for these two alternatives indicates that forest practices can yield similar harvest volumes despite different acreages of timber land available to manage. As a result, lumber and wood products workers need not assume layoffs would result with the establishment of the Reserve, for either the 7,503-acre or the 63,673-acre proposal.

In addition, the loss of timber-related jobs associated with reduced timber harvest volumes could be offset to some degree by direct and indirect employment opportunities associated with the management of the Reserve. A substantial increase in employment related to recreational use of the Reserve is not expected, especially considering that recreational uses would be limited to low impacts. The effects would be about the same for the smaller Reserve as for the 63,673-acre Reserve, because there would be no increased recreational use of the larger Reserve. There would be new jobs associated with the administration of the Reserve, such as construction and maintenance of visitor facilities and trails and particularly for habitat restoration activities. Public use of the Reserve would also generate some tourism-related jobs, as well as business services supporting management of the Reserve. Evaluation of potential employment effects of the Reserve would be part of the development of the land management plan for the Reserve.

#### **Layoffs Over Time**

The analysis in the sections above compared and contrasted average annual harvest volumes and employment figures. PALCO's SYP, however, proposes harvest prescriptions by decade. As such, the Plan would allow PALCO to vary harvest levels from year to year, as long as the total harvest volumes for the decade were not exceeded. In this way, PALCO would have flexibility to vary harvest volumes based on changing regional and international demand, as well as total strength of the regional and national economy.

This flexibility is not discussed in the analysis above. In actuality, it would be quite unlikely that average annual harvest volumes and associated employment would be constant for each decade. It would also be unlikely that average annual decreases in employment and gradual decreases in

harvest volumes would occur. Rather, annual harvest volumes and associated employment would be expected to fluctuate from season to season and from year to year. Within a particular 10-year planning horizon, PALCO could lay off employees some years and hire additional employees in other years. Predicting such annual fluctuations would be speculative. Such employment actions would similarly affect each of the alternatives.

#### **Logging Versus Sawmill Jobs**

The discussion above describes employment effects in terms of total workers and does not comment on the effects on certain job categories. In contrast to many timber companies, PALCO grows, manages, harvests, and processes the timber. The company both sells and keeps logs for processing in its own sawmills. As such, PALCO employees are involved in both logging and manufacturing activities.

The proposed SYP addresses the management and harvesting practices on PALCO's lands. It does not address issues related to the operation of PALCO's sawmills in similar detail. Clearly, the implementation of the SYP would affect employment at the sawmills, but it would most directly affect logging jobs. For comparison, Alternatives 2 and 2a would have the least effects on loggers, Alternatives 1 and 4 would have moderate effects, and Alternative 3 would have major impacts on workers based on projected harvest levels.

PALCO already uses contract logging companies and/or individuals to make up almost half of the logging workforce needed for PALCO's timberlands. The job loss analysis above, however, assumed that PALCO would continue to contract a similar proportion of its logging workforce. It is more likely, however, that PALCO would decide to keep its own logging crews and terminate contracts with logging companies based on prescribed average

annual or actual forecast timber harvest volumes. It is unlikely that PALCO would consider contracting with other timber landowners to log its lands. It is also unlikely that PALCO would lay off all of its logging workers and rely solely on contract workers. Overall, the number of employees and/or contract loggers would depend upon the volume of projected average annual harvests on PALCO lands.

The need for sawmill workers, however, would not necessarily depend entirely upon harvest levels. First, PALCO could decide to increase or decrease sales of cut timber depending on market conditions to maximize its revenue irrespective of anticipated timber harvest volumes. Second, the company could reduce the number of overtime hours and level the work among all employees. Third, this action could require retraining of employees. Fourth, the company could purchase additional timber to sustain mill production at existing levels. In the proposed SYP, PALCO indicates that the company intends to purchase timber to mitigate potential employment impacts of reduced harvest volumes.

The purchase of additional timber could mitigate potential employment effects on sawmill workers, who compose approximately 87 percent of PALCO's lumber and wood products workers. PALCO's business decisions regarding the sale of cut timber, annual harvest volumes, mill production levels, and timber purchases would together determine PALCO's need for sawmill workers.

In sum, due to the interaction of multiple variables, it is difficult to project which of the alternatives might cause greater or lesser impacts on loggers and sawmill workers. Furthermore, efforts to define a relationship between the effect of reduced timber harvest volumes and employment effects by type of job would be speculative.

### **Sawmill Line Workers and Plant Operations**

A decrease in the supply of timber to PALCO's sawmills would be expected to lead to the layoff of some sawmill workers. The operation of a mill, however, involves both a core group of workers as well as additional production line workers. Initially, layoffs of workers, primarily production line workers, would be closely tied to the reduction in timber volumes. As timber volumes decreased, the operators of duplicate or specialized equipment or mill processes would likely be let go. In this fashion, the layoffs would affect small groups of workers, and employment at any particular mill would decrease in a step-wise fashion. During this phase, all of the workers involved in the core operation of the mill would continue to be needed.

The next level of layoffs would affect core operations. Since these workers would be needed to operate the mill no matter what volume of timber is in production, layoffs of these workers would occur all at once, not gradually or in a step-wise fashion. As such, significant reductions in timber volumes could result in the closure of PALCO mills. These employment effects regarding plant operation would occur to different degrees under each of the alternatives and would vary over time for any particular alternative.

### **Mill Closures**

Based on the type and volume of timber harvested on PALCO lands, the temporary or permanent closure of one or more of PALCO's sawmills could occur. The purpose of the proposed SYP is to manage harvest rates such that, by the end of the 120-year planning horizon, PALCO would be able to perpetually harvest quantities of timber if harvest did not exceed the timber production capacity of PALCO's lands. As such, at some point in the 120-year planning period, it is conceivable that all existing old-growth redwood trees would be harvested.

Under Alternatives 1, 2, 2a, and 4, PALCO would continue to harvest both old-growth redwood and Douglas-fir trees. PALCO owns two mills dedicated to processing old-growth trees. Old-growth redwood logs are generally processed by Mill B in Scotia, while Mill A is specially designed to handle old-growth, Douglas-fir trees. Under these four alternatives, PALCO would be expected to continue to operate both Mill A and Mill B for the foreseeable future. Over the long-term, however, harvesting of all old-growth trees would likely close down the operation of these two sawmills.

Under Alternative 3, harvesting of old-growth redwood species would not occur. Unless the company were to purchase additional old-growth redwood timber, the future operation of PALCO's Mill B would be limited. Rather than close the sawmill, PALCO could consider retrofitting the mill to handle old-growth, Douglas-fir trees, which would be harvested under this alternative. The company also could decide to convert the mill to handle smaller-diameter, second-growth logs. If none of these options was taken, then PALCO would be expected to close this mill.

### **3.13.2.3 Income**

With the anticipated loss of lumber and wood products jobs under each of the alternatives, the total wage and salary income to Humboldt County would likely decrease. As described in Section 3.13.1.3, Income, the wages and salaries of lumber and wood products workers are high in comparison to average annual wages and salary income of Humboldt County residents. The loss of high-paying jobs might discourage workers from looking for or obtaining similarly compensated jobs. Unemployed workers also might accept new, lower-paying jobs. Furthermore, earned income from jobs in the services or retail trade sectors of the economy would likely fall below the county's average wage and salary income to residents.

Table 3.13-10 presents forecasted wage and salary income losses for each of the alternatives. Calculations assume a 1997 average earned income for Humboldt County lumber and wood products workers of \$34,187 (Fax communication, Anita Alexander, California Employment Development Department, Labor Market Information Division, June 5, 1998). Total income changes are calculated based on the average annual number of logging and sawmill workers employed by PALCO for the first decade of the planning period. Total income (1997 dollars) from both direct and indirect timber-related jobs are summed and compared to the 1997 lumber and wood products and total personal income in Humboldt County. In that year, PALCO wage and salary income from all lumber and wood products jobs and associated indirect jobs composed an estimated 38 percent of the county's lumber and wood products earned income. Thus, the income derived from PALCO jobs constituted slightly less than one-third of all Humboldt County lumber and wood products jobs. Below, the forecasted changes in PALCO employees and resulting changes in the county's wage and salary income are discussed.

Table 3.13-10 also presents estimated sales tax revenue losses to Humboldt County. The analysis of these effects is presented in Section 3.13.2.5, Government Taxes and Revenue.

### **Alternative 1 (No Action/No Project)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA. For CEQA, the No Action/No Project alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. Compliance is attained by a wide variety of mitigation measures

tailored to local conditions such that significant environmental effects and take of listed species are avoided. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a less-than-significant level through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs, as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of RMZs are considered qualitatively because adequate buffer widths could differ as a result of varying conditions on PALCO lands.

During the first decade of the planning period under Alternative 1, timber-related jobs at PALCO are estimated to decline from current levels by 533 jobs if the wide, no-harvest RMZs are assumed. Based on estimated average annual earnings of Humboldt County lumber and wood products workers, this decline would result in an \$18 million (1997 dollars) decrease in the county's wage and salary income from PALCO jobs. The estimated loss of indirect and induced jobs would decrease total county wage and salary income by \$32.2 million (1997 dollars). For comparison, the county's 1995 total personal income (wages and salaries, property income, business income, and public and private transfer payments) was \$2.3 billion dollars (California Department of Finance, Financial and Economic Research Unit, September 1997). This loss of timber-related wage and salary income would be less than 1.4 percent of the county's total. Characteristic of rural counties, transfer payments account for a major share, nearly 25 percent, of the county's total personal income (Lammers, 1997).

In contrast, the implementation of the narrower, no-harvest RMZs under this alternative would have the same direct correlation as timber harvest volumes. An estimated 15 percent increase over harvest volumes using the wide RMZs would similarly increase PALCO timber-related employment, total wage and salary income in Humboldt County, and potential sales tax revenue to the county.

### **Alternative 2 (Proposed Action/Proposed Project)**

The estimated average annual loss of PALCO jobs under Alternative 2 is 115 direct jobs during the first decade of the planning period and 190 total timber-related jobs. The average annual loss of direct wage and salary income in Humboldt County would be approximately \$3.9 million. Total timber-related job loss would result in an estimated decrease of \$7.0 million, or less than one percent of the county's total.

### **Alternative 2a (No Elk River Property)**

The potential effects on Humboldt County's wage and salary income from timber-related jobs would be greater than those described under Alternative 2. During the first decade, the average annual loss in PALCO's direct and all timber-related wage and salary income would total approximately \$12.0 million. These numbers are nearly one-third of the magnitude of the effects of Alternative 1 and 1.5 times the losses of Alternative 2.

### **Alternative 3 (Property-wide Selective Harvest)**

The effects on Humboldt County's total income would be greater under Alternative 3 than under any other alternative. Total job loss at PALCO during the first decade is anticipated to be approximately 1,098 jobs. Based on the 1977 estimated average annual earnings of lumber and wood products workers in Humboldt County (\$34,187), the average

annual timber-related wage and salary income would decline by an estimated \$67 million per year. This estimate is slightly high, considering a very small increase in logging workers would be needed for selective harvest methods. Even under this alternative, income losses would be less than three percent of the county's total personal income.

#### **Alternative 4 (63,000-acre No-harvest Public Reserve)**

The magnitude of potential effects on the county's timber-related wage and salary income under the 63,000-acre No-harvest Public Reserve alternative would be slightly greater than the effects described for Alternative 1. The forecasted earned income loss of PALCO jobs during the first decade would result in a decrease of approximately \$19.6 million in the county's average annual wage and salary income and \$36.8 million for all timber-related earned income.

In summary, the potential loss of PALCO jobs due to reductions in timber harvest levels under each of the five alternatives would not be expected to result in significant effects on the county's timber-related wage and salary income or total personal income. As mentioned above, the effects on the county's total personal income under Alternative 3 could result in the greatest impacts, depending upon other factors. The relative importance of these reductions in wage and salary income to the county must also consider the makeup of total personal income in Humboldt County. Only 47 percent of total personal income to the county in 1994 was from wages and salaries (Lammers, 1997).

#### **3.13.2.4 Population Migration**

Changes in population are a function of four factors: births, deaths, in-migration, and out-migration. Births and deaths account for the natural net increase in population, whereas the other two factors determine

the net effect of migration. Together, these components of population change determine the net effect on population.

For the project alternatives, the forecasted number of jobs for PALCO workers, contractors, and timber-related workers in the community would be below historic levels and might affect the population of Humboldt County (Table 3.13-11). To assess the potential worst-case scenarios, the analyses below assume that none of the unemployed PALCO workers is able to locate a job in the county and would relocate family members to other communities outside of the county. In addition, the analyses assume that the decrease in timber-related wage and salary income from workers relocating outside of the county would result in relocation of families dependent upon employment with timber-related businesses in the community. To calculate these population effects, the number of timber-related workers is assumed to be an additional 0.65 worker for every PALCO job eliminated, and the average household size is assumed to be 2.434 persons per household (1990 U.S. Census).

This analysis also makes assumptions about other factors. All PALCO contractors are assumed to be able to find employment in the region in the lumber and wood products industry or other industries. The analysis does not address the natural decrease in PALCO jobs that would occur when workers retire and replacement workers are not hired, or timber companies restructure. All estimated changes in population are compared to interim population projections for Humboldt County for 2010 (143,900 persons) (California Department of Finance, April 1997).

#### **Alternative 1 (No Action/No Project)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA. For CEQA, the No Action/No project

alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. Compliance is attained by a wide variety of mitigation measures tailored to local conditions such that significant environmental effects and take of listed species are avoided. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a level of less than significant through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs, as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of RMZs are considered qualitatively because it is expected that adequate buffer widths could vary as a result of varying conditions on PALCO lands.

During the first decade of the planning period under Alternative 1, an estimated 527 workers would be unemployed, assuming implementation of the wide, no-harvest RMZs. This would result in an estimated 2,141 people who might migrate out of the county, or an average of 214 people per year. This average annual change in population represents an estimated 0.2 percent of the county's 1997 population or approximately 1.5 percent of the forecast 2010 population of Humboldt County. This change probably would not adversely affect the population. As discussed earlier in this section, the short-term harvest and associated timber-related employment assuming the narrow RMZs could be approximately 15 percent greater than if the wide RMZs are assumed. This effect would continue to support the Humboldt County timber industry and the

local economy. As such, people would be less likely to move from the County.

### **Alternative 2 (Proposed Action/Proposed Project)**

In Alternative 2, an estimated 115 PALCO workers would be unemployed during the first decade of the planning period. If all timber-related workers and their family members relocated, then the county's population would decrease by an estimated 462 persons, or less than one percent of the county's projected 2010 population. Considering that annual fluctuations in lumber and wood products employment in Humboldt County over the past 10 years has been between 100 and 400 jobs, the general assumption that unemployed workers and their families would move from the county may not be appropriate.

### **Alternative 2a (No Elk River Property)**

The potential population effects under Alternative 2a are greater than those described for Alternative 2. During the first decade, an estimated 196 PALCO workers would lose their jobs, and approximately 789 persons might relocate outside of the county. The potential change in population would be less than one percent of the projected Humboldt County population. The potential population effects during the first decade of the planning period should not be considered significant.

### **Alternative 3 (Property-wide Selective Harvest)**

In comparison to each of the other project alternatives, the potential effects on population would be the greatest under Alternative 3. Under this alternative, harvest levels are the lowest of any of the alternatives during the first decade of the planning period. As such, the resulting loss of PALCO and timber-related jobs would be the greatest, as well as the potential

**Table 3.13-11. Humboldt County Forecast Average Annual Changes in Population for  
for Decade 1**

		Jobs		Potentially Affected Persons	Average Annual Change	Share of 1997 County Population
		Direct	Total			
<b>Historic</b>						
	Elk River	63	104	253		
	PALCO	1,680	2,772	6,747		
	Total	1,743	2,876	7,000		
	County	4,400	7,260	17,671	NA	NA
<b>Forecast Change from Historic</b>						
<b>Alt. 1</b>	PALCO	(533)	(879)	(2,141)	(214)	-0.2%
	Total	(527)	(870)	(2,116)	(212)	-0.2%
<b>Alt. 2</b>	PALCO/ Total	(115)	(190)	(462)	(46)	0.0%
<b>Alt. 2a</b>	PALCO	(196)	(323)	(787)	(79)	-0.1%
	Total	(191)	(315)	(767)	(77)	-0.1%
<b>Alt. 3</b>	PALCO/ Total	(1,098)	(1,812)	(4,410)	(441)	-0.3%
<b>Alt. 4</b>	PALCO	(574)	(947)	(2,305)	(231)	-0.2%
	Total	(602)	(993)	(2,418)	(242)	-0.2%

Assumptions:

- 1/ The decrease in L&WP jobs is due to the smaller harvests projected.
- 2/ The potential number of timber-related jobs that would be affected by the loss of L&WP jobs is calculated based on a multiplier of 1.65 timber-related jobs for each L&WP job.
- 3/ The potential number of persons who would be affected by the loss of timber-related jobs is calculated by multiplying the 1990 total number of timber-related jobs by 2.434, the county's average number of persons per household (EDD 1997).
- 4/ The calculated average annual change in population affected by the alternatives is distributed across the 10 years of the decade in comparison to 1997 population figures.

Source: Foster Wheeler Environmental Corporation, 1998



population effects. During the first decade, harvest levels are such that more than 65 percent of current PALCO jobs would be eliminated. In total, an estimated 1,098 timber-related workers would be unemployed, and approximately 4,410 persons might move from Humboldt County in search of employment. The magnitude of this change in population would decrease total county population by nearly three percent of the projected 2010 population for Humboldt County and should be considered significant.

#### **Alternative 4 (63,000-acre No-harvest Public Reserve)**

The potential effects on population under Alternative 4 are very similar to those described for Alternative 1. During the first decade, there would be an estimated 574 unemployed PALCO workers, which would result in potential out-migration of approximately 2,418 persons from the county. This out-migration would represent an estimated 1.7 percent of the forecasted population and probably would not significantly affect the population.

As discussed earlier in the section, the PALCO short-term harvest volumes and associated timber-related employment assuming the narrow RMZs could be approximately 15 percent greater than if the wide RMZs are assumed. This effect would continue to support the Humboldt County timber industry and the local economy. As such, people would be less likely to move from the county.

#### **3.13.2.5 Government Taxes and Revenues**

This discussion of potential effects on government taxes and revenues resulting from the proposed alternatives evaluated in this EIS/EIR is divided into five sections. The first four sections review potential effects on Humboldt County revenues from PILT payments, California Timber yield tax, and Humboldt County property and sales taxes. There is no detailed discussion

of potential federal 25 percent fund revenues, since commercial logging would not be permitted in the proposed Reserve, and potential income from visitors would be negligible compared to forest receipts in Humboldt County. The fifth section comprehensively evaluates the potential effects from all of these sources of revenue compared to total revenues Humboldt County receives from all sources.

#### **Federal Payments in Lieu of Tax**

The proposed acquisition of PALCO and/or Elk River Timber Company forest lands for the proposed establishment of the Headwaters Reserve would affect the amount of PILT revenues paid to Humboldt County. These payments are based on the total amount of federal entitlement acreage in the county (471,008 acres) and ongoing changes in total acres due to the acquisitions of private lands by the federal government. This analysis assumes all of the acreage proposed for the Headwaters Reserve would be considered federal lands for purposes of calculating PILT payments. In addition, the calculations assume Congress will fully fund future PILT payments. In general, the potential effects on PILT revenues for each of the alternatives are relatively insignificant and are summarized below. The implementation of either the wide or narrow no-harvest RMZs on PALCO timberlands would not affect PILT revenues to the county.

Table 3.13-12 shows the potential effects on PILT revenues under each of the alternatives. Under Alternative 1, no private land would be acquired by the federal government, so there would be no change in PILT revenues received by Humboldt County. The proposed federal acquisition of 7,503 acres under Alternatives 2 and 3 would increase total entitlement acreage in the county by less than two percent. Increased entitlement acreage under Alternative 2a would be

slightly more than one percent. Under Alternative 4, total acreage would increase by an estimated 13 percent. Because the federal government has passed legislation stipulating future payout rates for PILT payments, some additional income is recorded under Alternative 1.

During the first five years following the acquisition of the forest lands, the county would receive slightly higher revenues, between \$14,000 and \$34,000, for all alternatives due to the increase in entitlement acreage (Table 3.13-12). More than 90 percent of historic revenues, approximately \$1.5 million, is based on Section 6904/5 payments related to the acquisition of land for the Redwoods National Park. This revenue would continue under all of the alternatives. Additional Section 6904 payment for the first five years following the acquisition of the forest lands would increase county revenues by \$13,000 to \$18,000, except under Alternative 4. Under that alternative, Humboldt County would receive an estimated \$150,905 per year for the first five years. Over the short term, total Humboldt County PILT revenues under each of the alternatives would increase by an estimated one percent, or approximately eight percent under Alternative 4. During the latter half of the decade, total increases in PILT payments would be less than one percent, except under Alternative 4, where average annual PILT payments could be close to a two percent increase. As such, the potential effects on PILT revenue must be considered insignificant, though near-term benefits under Alternative 4 would cumulatively add over \$754,000 in total revenue to the county's coffers.

Though the actual number of acres comprising the proposed Headwaters Reserve would not change over time, the county would continue to collect revenue

based on the annual appropriations and per-acre rates authorized by Congress.

### **California Timber Yield Tax**

Based on the assumed harvest levels for each of the alternatives, the Humboldt County, California Timber yield tax revenue can be projected (Table 3.13-13). To perform these calculations, however, several assumptions have been made. All estimates of future revenue are presented in 1997 dollars. The unit value of timber was estimated based on the average 1997 value for all of Humboldt County, \$448.10 per mbf of harvested timber. The actual value of timber harvested from PALCO forest lands may be higher due to the quantity of old-growth and redwood species. The forecasted Timber yield tax revenues received by Humboldt County are approximately 90 percent of the total 2.9 percent tax collected by the California Board of Equalization, Timber Tax Division. To administer the tax program, the Timber Tax Division retains about 10 percent of the revenue. The potential loss of revenue to the Timber Tax Division is not shown on the table. The following paragraphs briefly describe the potential effects on the county's timber yield tax revenues.

#### **ALTERNATIVE 1 (NO ACTION/NO PROJECT)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA. For CEQA, the No Action/No Project alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. Compliance is attained by a wide variety of mitigation measures tailored to local conditions such that significant environmental effects and take of listed species are avoided. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a level of less than significant

through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs, as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of RMZs are considered qualitatively because adequate buffer widths could differ as a result of varying conditions on PALCO lands.

Though this is the No Action/No Project alternative, the effect of no-take forest land management and timber harvest practices would result in reduced harvest levels. Timber harvest levels from PALCO and Elk River Timber Company lands for the first decade of the planning period were forecasted to be an annual average of 182,667 mbf, assuming the wide, no-harvest RMZs are implemented on PALCO lands. Humboldt County would receive an estimated annual average of about \$2 million (1997 dollars) from these projected timber harvests. This is approximately five percent of historic levels. Humboldt County revenues would be approximately 15 percent or \$920,990 lower than historic revenues. If the narrower RMZs were implemented, timber harvest volumes would increase and timber yield tax revenues to Humboldt County would increase an estimated 15 percent above amounts calculated using the wide RMZs.

#### **ALTERNATIVE 2 (PROPOSED ACTION/PROPOSED PROJECT)**

Assuming an estimated 233,519 mbf would be harvested from PALCO forest lands during the first decade of the planning period, including acquired Elk River Timber Company lands, Humboldt County would receive approximately \$2.7 million in Timber Yield Tax revenues per year under

this alternative (Table 3.13-13). This is a five percent decline, or about \$193,000, from 1997 total Humboldt County revenues.

#### **ALTERNATIVE 2A (NO ELK RIVER PROPERTY)**

The assumed timber harvest volumes from PALCO lands under Alternative 2a are lower than those estimated for Alternative 2. Humboldt County would continue to receive an estimated \$2.6 million of timber yield tax revenues from harvests on PALCO lands. This revenue for decade one is the highest timber yield tax revenue of all the alternatives.

#### **ALTERNATIVE 3 (PROPERTY-WIDE SELECTIVE HARVEST)**

Due to the restrictions placed on timber harvest levels under Alternative 3, timber yield tax revenues to Humboldt County would be heavily impacted. Tax revenue would be approximately \$1 million for the first decade of the planning period. As a result, Humboldt County timber yield tax revenues would decline by approximately 33 percent from current revenues. This loss of timber yield tax revenue would be a significant effect. Total county annual revenues would decrease by approximately \$2 million due to the projected timber harvest levels (Table 3.13-13). Under this alternative, the county would receive the least amount of revenue from the timber yield tax.

#### **ALTERNATIVE 4 (63,000-ACRE NO-HARVEST PUBLIC RESERVE)**

A total of 63,763 acres of PALCO and Elk River Timber Company forest lands would be withdrawn from commercial timber production under Alternative 4. Though timber harvest activities would be reduced to a smaller number of acres, the projected timber harvest volumes under this alternative are similar to those under Alternative 1, the No Action alternative. This is because of the management restrictions prescribed under the No Action

**Table 3.13-12.** Humboldt County Annual Forecast Federal Payment in Lieu of Taxes Revenue for Decade 1

		Humboldt Co.	PILT Annual Payments					Annual Change		
		Entitlement (acres)	Section 6902	Section 6904/5 Existing	Future	Revenue		Revenue (1998 \$s)		Percent
						1-5 years	> 5 yrs	1-5 years	> 5 yrs	> 5 yrs
<b>Historic (1997 \$s)</b>										
	<b>BLM</b>	63,537								
	<b>Total</b>	471,008	\$84,781	\$1,535,844	NA	\$1,620,625	\$1,620,625	NA	NA	NA
<b>Forecast (1998 \$s)</b>										
<b>Alt. 1</b>	<b>Total</b>	471,008	\$98,912	\$1,535,844	\$0	\$1,634,756	\$1,634,756	\$14,131	\$14,131	0.9%
<b>Alt. 2</b>	<b>PALCO</b>	476,774	\$100,123	\$1,535,844	\$13,665	\$1,649,632	\$1,635,967	\$29,007	\$15,342	0.9%
	<b>Total</b>	478,538	\$100,493	\$1,535,844	\$17,846	\$1,654,183	\$1,636,337	\$33,558	\$15,712	1.0%
<b>Alt. 2a</b>	<b>PALCO/Total</b>	476,774	\$100,123	\$1,535,844	\$13,665	\$1,649,532	\$1,635,967	\$29,907	\$15,342	0.9%
<b>Alt. 3</b>	<b>PALCO</b>	476,774	\$100,123	\$1,535,844	\$13,665	\$1,649,532	\$1,635,967	\$29,007	\$15,342	0.9%
	<b>Total</b>	478,538	\$100,493	\$1,535,844	\$17,846	\$1,654,183	\$1,636,337	\$33,558	\$15,712	1.0%
<b>Alt. 4</b>	<b>PALCO</b>	530,004	\$11,301	\$1,535,844	\$139,821	\$1,786,965	\$1,647,145	\$166,340	\$26,520	1.6%
	<b>Total</b>	534,681	\$112,283	\$1,535,844	\$150,905	\$1,799,032	\$1,648,127	\$178,407	\$27,502	1.7%

## Assumptions:

1/ Calculations assume Congress fully funds the PILT Program. In 1997, Congress funded 53 percent of the budget.

2/ Calculations assume that no other federal-private land exchanges occur within Humboldt County.

3/ All Section 6902 payments assume a 1998 rate of \$0.20 per acre. The rate is authorized to increase annually adjusted for inflation. In 1998, inflation is assumed to be 1.058%, the same value used in 1997.

4/ For Alternatives 2 to 4, Humboldt County would receive additional Section 6904 payments for the first 5 years following the acquisition to compensate for a reduction in property taxes. The calculations for Section 6904 payments assume the county receives an amount equal to the estimated 1998 annual property taxes (1% of assessed value assuming \$237/ac.) for the year the property was acquired (1998).

5/ The existing Humboldt County Section 6905 payments are paid on lands acquired for the Redwood National Park. Existing Section 6905 payments continue in the future.

Source: Fax communications, Maria Kammerer, Bureau of Land Management, Sacramento, California, April 15, 1997 and May 26, 1998.

**Table 3.13-13.** Humboldt County Forecast Average Annual California Timber Yield Tax for Decade 1

	Date	Average	Historic Harvests			Assessed Value			Local Revenue			Humboldt Change	PALCO	Total
		Assessment (Per MBF)	PALCO (MBF/YR)	Total (MBF/YR)	Humboldt (MBF/YR)	PALCO (1997 \$s)	Total (1997 \$s)	Humboldt (1997 \$s)	PALCO (1997 \$s)	Total (1997 \$s)	Humboldt		Change (1997 \$s)	Change (1999 \$s)
<b>Historic</b>	1997	\$ 448.10	250,000	260,500	523,539	\$ 112,025,000	\$ 116,730,050	\$ 234,597,826	\$ 2,923,853	\$ 3,046,654	\$ 6,212,076	NA	NA	NA
<b>Forecast</b>														
<b>Alt. 1</b>	2003-2012	\$ 448.10	171,252	182,667	445,706	\$ 76,738,021	\$ 81,853,083	\$ 199,720,859	\$ 2,002,862	\$ 2,136,365	\$ 5,212,714	-15%	\$ (920,990)	\$ (910,289)
<b>Alt. 2</b>	2003-2012	\$ 448.10	233,519	233,519	496,558	\$ 104,639,864	\$ 104,639,844	\$ 222,507,640	\$ 2,731,100	\$ 2,731,100	\$ 5,807,449	-5%	\$ (192,752)	\$ (315,554)
<b>Alt. 2a</b>	2003-2012	\$ 448.10	221,481	232,896	495,935	\$ 99,245,636	\$ 104,360,698	\$ 222,228,474	\$ 2,590,311	\$ 2,723,814	\$ 5,800,163	-5%	\$ (333,541)	\$ (322,840)
<b>Alt. 3</b>	2003-2012	\$ 448.10	86,878	86,878	349,917	\$ 38,930,032	\$ 38,930,032	\$ 156,797,808	\$ 1,016,074	\$ 1,016,074	\$ 4,092,423	-33%	\$ (1,907,779)	\$ (2,030,580)
<b>Alt. 4</b>	2003-2012	\$ 448.10	165,021	170,896	433,935	\$ 73,945,910	\$ 76,578,498	\$ 194,446,274	\$ 1,929,988	\$ 1,998,699	\$ 5,075,048	-17%	\$ (993,864)	\$ (1,047,956)

Assumptions:

1/ The value of forecast timber harvested from PALCO and/or Elk River Timber Company property is based on the 1997

Humboldt County average value per 1 MBF--\$448.10 per MBF.

2/ The total historic harvest includes timber cut on both PALCO and Elk River Timber Company lands.

3/ The total Humboldt County revenue is calculated to be 90% of the 2.9% tax on harvested timber.

Source: California Board of Equalization, Timber Tax Division, 1996.

alternative. The timber yield tax revenues generated would be slightly lower than the amounts collected under Alternative 1. For the first decade under this alternative, Humboldt County would receive an annual average of \$1,928,988 for PALCO harvests, or \$1,998,699, including the revenue associated with harvests on Elk River Timber Company lands (Table 3.13-13). This amount is approximately 17 percent less than historic levels and would be a significant effect.

### **Humboldt County Property Taxes**

The proposed acquisitions of real property among PALCO, the Elk River Timber Company, and the federal and state governments would affect local government property tax revenues. County governments assess and collect property taxes on commercial forest lands. The assessment rates, however, are set by the California Board of Equalization. For the proposed acquisition of PALCO forest lands, the assessed value per acre is assumed to be \$237, based on 1997 rates for Site II conditions in the Redwood Region. The county property taxes on timber production zone forest lands are limited to one percent of the assessed value. The potential effects on Humboldt County property tax revenues resulting from the alternatives are discussed below and are presented in Table 3.13-14. Since the number of acres of PALCO lands would not change over time, the revenue for decade one and the future would be similar, depending on changing assessment rates.

#### **ALTERNATIVE 1 (NO ACTION/NO PROJECT)**

This alternative would not involve the acquisition of PALCO or Elk River Timber Company commercial forest lands by the federal and state governments. As such, there would be no change in county property tax revenues. The implementation of either the wide or narrow no-harvest RMZs would not affect PALCO property tax revenues paid to the county. The existing

PALCO and Elk River Timber Company properties would continue to annually generate approximately \$515,743 (1997 dollars) in annual property tax revenues for Humboldt County.

#### **ALTERNATIVE 2 (PROPOSED ACTION/ PROPOSED PROJECT)**

Under Alternative 2, commercial forest lands owned by PALCO and the Elk River Timber Company would be acquired by the federal and state governments. In Humboldt County, 7,503 acres of private property would be transferred to public ownership. As such, the county would no longer be able to assess property taxes on this land. Humboldt County would continue to receive an annual estimated \$497,897 in property tax revenues, a reduction of approximately \$17,847 (1997 dollars) per year in comparison to Alternative 1.

Since total Humboldt County property taxes were over \$12 million in fiscal year 1995 to 1996 (Personal communication, Anita Degan, California Office of Controller, July 29, 1998), potential effects relative to all property tax revenues would be less than one percent.

#### **ALTERNATIVE 2A (NO ELK RIVER PROPERTY)**

Under Alternative 2a, approximately 5,766 acres of PALCO lands would be acquired for public ownership and management. Local government property taxes would no longer be assessed on these forest lands. As such, Humboldt County annual property tax revenue would be reduced by approximately \$13,665 (1997 dollars) in comparison to Alternative 1. This reduction would be less than three percent for all property taxes on TPZ lands and insignificant in comparison to the more than \$12 million in total property tax revenues collected by the county.

**Table 3.13-14. Humboldt County Forecast Average Annual Property Tax Revenue for Decade 1**

	Timberland (Acres)	Assessment Per Acre (1997 \$s)	Assessed Value (1997 \$s)	Forecast Property Tax Revenues	Humboldt Change	Change (1997 \$s)
<b>Forecast</b>						
<b>Alt. 1</b>						
Elk River	9,468	\$237	\$2,243,961.03	\$22,439.61		
PALCO	208,145	\$237	\$49,330,365.00	\$493,304.00	0.0%	\$0
Action	217,613	\$237	\$51,574,281.00	\$515,743.00	0.0%	\$0
County Total	986,984	\$163	\$160,511,850.00	\$1,605,118.50	0.0%	\$0
<b>Alt. 2</b>						
Elk River	0	\$237	\$0	\$0		
PALCO	210,083	\$237	\$49,789,671.00	\$497,897.00	0.9%	\$4,593
Action	210,083	\$237	\$49,789,671.00	\$497,896.71	-3.5%	(\$17,846)
County Total	979,454	\$163	\$159,651,002.00	\$1,596,510.02	-0.5%	(\$8,608)
<b>Alt. 2a</b>						
Elk River	9,468	\$237	\$2,243,916.00	\$22,439.16		
PALCO	202,379	\$237	\$47,963,823.00	\$479,638.23	-2.8%	(\$13,665)
Action	211,847	\$237	\$50,207,739.00	\$502,077.39	-2.6%	(\$13,665)
County Total	981,218	\$163	\$159,938,534.00	\$1,599,385.34	-0.4%	(\$5,733)
<b>Alt. 3</b>						
Elk River	0	\$237	\$0	\$0		
PALCO	210,083	\$237	\$49,789,671.00	\$497,896.71	0.9%	\$4,593
Action	210,083	\$237	\$49,789,671.00	\$497,896.71	-3.5%	(\$17,846)
County Total	979,454	\$163	\$159,651,002.00	\$1,596,510.00	-0.5%	(\$8,608)
<b>Alt. 4</b>						
Elk River	4,791	\$237	\$1,135,467.00	\$11,355.00		
PALCO	149,149	\$237	\$35,348,313.00	\$353,483.00	-28.3%	(\$139,821)
Action	153,940	\$237	\$36,483,780.00	\$364,838.00	-29.3%	(\$150,905)
County Total	923,311	\$163	\$150,499,693.00	\$1,504,997.00	-6.2%	(\$100,122)

Note: The calculation of property tax is based on prescriptions set by the California Board of Equalization, Timber Tax Division. This agency sets annual per-acre assessment values by a mix of species and site classification. The 1998 Redwood Region Site II value (\$237/ac) is assumed for the acquired PALCO and Elk River Timber Company lands. The tax rate is one percent of the assessed value of the timberland. Humboldt County total timberland acreage (total TPZ-designated land) and total assessed value were obtained from the Assessor's Office for 1997. The countywide average assessment rate was calculated from 1997 data.

Sources: Letter from the State Board of Equalization to County Assessors, County Counsels, and Other Interested Parties, December 5, 1996. Personal communication, Ms. Linda Hill, Assessor's Office, Humboldt County, May 19, 1998. Personal communication, Mr. Frank Wilson, California Board of Equalization, Timber Tax Division, May 18, 1998.

### **ALTERNATIVE 3 (PROPERTY-WIDE SELECTIVE HARVEST)**

The potential effect on county property tax revenues under Alternative 3 would be the same as described for Alternative 2.

### **ALTERNATIVE 4 (63,000-ACRE NO-HARVEST PUBLIC RESERVE)**

Of all of the alternatives, the establishment of a proposed 63,673-acre Headwaters Reserve under Alternative 4 would have the greatest effect on local government property tax revenues. The county would continue to receive an estimated \$364,838 (1997 dollars) annually from Elk River Timber

Company and PALCO. This is almost a 30 percent reduction in property taxes from PALCO and Elk River Timber Company timber lands. The land acquisition, however, would reduce local government property tax revenue by an estimated \$150,905 per year, but only by an estimated 6.2 percent of all property tax revenues (Table 3.13-14). This change might affect county budgeting and/or expenditures depending on total county revenues.

### **Humboldt County Sales Tax**

The implementation of any of the alternatives to acquire PALCO and Elk River Timber Company timber lands also would affect local government sales tax revenues. Reduced harvest levels would affect company local expenditures, and the layoff of workers would affect family expenditures in the community. Related to workers' incomes, taxable expenditures conservatively represent 45 percent of total personal income. A total of 1.25 percent of the local 7.25 percent sales tax collected on these expenditures goes to Humboldt County. Thus, a decline in timber-related employment would result in a decline in total income, personal taxable sales, and local government sales tax revenues. No data is available regarding PALCO's average annual taxable local expenditures, but the sum is large. A recent estimate prepared by Phyllis A. Lammers (Lammers, 1998) estimated Humboldt County 1997 retail expenditures made by the forest products industry to be more than \$112 million. A proportional share of these expenditures based on PALCO's share of historic timber harvest volume would total more than \$50 million, or an estimated 47 percent of total expenditure. Potential sales tax revenues from these expenditures would total approximately \$625,000 annually. As this calculation is based on several hypothetical assumptions and the relationship between timber volumes and local expenditures is tenuous, forecast sales tax revenues from future PALCO taxable

expenditures under each of the alternations has not been performed because of the speculative nature of such calculations.

The following describes potential changes in Humboldt County sales tax revenues under each of the alternatives (Table 3.13-10). For comparison, calculated effects are compared to total Humboldt County sales tax revenues of \$2.1 million in fiscal year 1995 to 1996 (California Department of Finance, 1998).

#### **ALTERNATIVE 1 (NO ACTION/NO PROJECT)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA. For CEQA, the No Action/No Project alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. Compliance is attained by a wide variety of mitigation measures tailored to local conditions such that significant environmental effects and take of listed species are avoided. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a level of less than significant through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of RMZs are considered qualitatively because it is expected that adequate buffer widths could differ as a result of varying conditions on PALCO lands.

Under this alternative, the potential reduction in sales tax revenues to Humboldt County under the No Action/No Project alternative would be approximately



\$183,000 in the first decade of the implementation of the proposed PALCO SYP. This estimate assumes implementation of the wide, no-harvest RMZs. In comparison to 1995 to 1996 total county sales tax revenue, this would be an estimated decrease of approximately 8.7 percent. This decline could be significant, depending on total revenues received by the county. In fiscal year 1994 to 1995, total local government receipts were \$333.5 million (California Department of Finance, 1998). As such, this reduction would be negligible in terms of its effect on government budgeting and expenditures.

In contrast, if the narrower, no-harvest RMZs were implemented, PALCO timber harvest volumes would be approximately 15 percent greater than harvest volumes using the wide RMZs. In addition, the total potential loss of PALCO timber-related employment would be reduced by an estimated 15 percent. The direct relationship between employment and taxable sales would result in an additional 15 percent of sales tax revenues to Humboldt County in comparison to estimates forecast assuming the wide RMZs.

#### ***ALTERNATIVE 2 (PROPOSED ACTION/PROPOSED PROJECT)***

During the first decade of the planning period, the forecasted change in lumber and wood products wage and salary income would not result in a significant decline in total sales tax revenues collected by Humboldt County. The average annual decline would be an estimated \$39,585. When compared to the 1995 to 1996 fiscal year total county sales tax revenue and 1995 to 1996 fiscal year total local government receipts, these financial effects would be insignificant.

#### ***ALTERNATIVE 2A (NO ELK RIVER PROPERTY)***

Under the No Elk River Property alternative, the average annual sales tax

revenue losses to the county during the first decade would be an estimated \$65,746.

This reduction in revenues would be insignificant compared to the county's total anticipated sales tax revenues and local government receipts.

#### ***ALTERNATIVE 3 (PROPERTY-WIDE SELECTIVE HARVEST)***

Under Alternative 3, the average annual sales tax revenues received by Humboldt County during the first decade would decline by \$337,954. This reduction in sales tax revenues would be the largest loss of sales tax revenue compared to all of the alternatives. This is a sizable reduction of local government revenue, and could reduce total sales tax revenues of the county by up to 18 percent. This loss of income to Humboldt County would likely affect county budgeting and expenditures, though the reduction is negligible compared to total local government receipts.

#### ***ALTERNATIVE 4 (63,000-ACRE NO-HARVEST PUBLIC RESERVE)***

The forecasted decline in average annual sales tax revenues to Humboldt County would be similar to declines calculated for Alternative 1, considering that forecast timber harvest volumes would be so similar. The average annual sales tax revenue losses would be approximately \$207,000 during the first decade of the planning period. This reduction in sales tax revenues from lumber and wood products workers could constitute as much as 9.8 percent of all sales tax revenues to the county. Therefore, implementation of this alternative could result in significant effects on total revenues, depending on other factors. Overall, though, this loss of sales tax revenues would be negligible compared to total receipts historically received by Humboldt County.

## **Net Effects on Government Taxes and Revenues**

This section discusses the potential net effects on government taxes and revenues (Table 3.13-15). The analysis explains whether the potential change in all affected tax revenues should be considered significant. Overall, despite the large amounts of tax revenue losses to be sustained by Humboldt County, the actual amounts of the reductions for all of the alternatives would not be significant relative to the total amount of revenue received by the county from all sources. The discussions below provide more-detailed analysis for each of the alternatives. In each case, the loss of revenues would be large sums, but not significant in comparison to total revenues received by the county.

### **ALTERNATIVE 1 (NO ACTION/NO PROJECT)**

As noted in Sections 2.5 and 3.13.2.1, the evaluation of the No Action/No Project alternative differs under CEQA and NEPA. For CEQA, the No Action/No Project alternative is not projected into the long-term future. In the short term, the conformance with the FPRs, the federal and California ESAs, and other federal and state laws is determined on a THP- and site-specific basis. Compliance is attained by a wide variety of mitigation measures tailored to local conditions such that significant environmental effects and take of listed species are avoided. Consequently, most significant environmental effects of individual THPs can be expected to be mitigated to a less-than-significant level through implementation of the No Action/No Project alternative.

As noted in Sections 2.5 and 3.13.2.1, the NEPA evaluation of the No Action/No Project alternative considers the implementation of wide, no-harvest RMZs, as well as restrictions on the harvest of old-growth redwood forest to model conditions over the short and long term. Ranges of

RMZs are considered qualitatively because it is expected that adequate buffer widths could differ as a result of varying conditions on PALCO lands.

Under Alternative 1, there would be no federal acquisition of forest land properties. Lacking any transfer of property ownership, there would be few or no effects on PILT fund or Humboldt County property tax revenues (Table 3.13-15). Values are included for PILT payments due to forecast escalation of per-acre rates. Due to assumed forest land management and timber harvest practices, the anticipated average annual harvest levels would decrease compared to current levels. This decrease would result in lower timber yield tax revenues to Humboldt County. In addition, the reduced timber harvest volumes could result in reduced local government expenditures and wages and salary income of unemployed timber workers, which would result in sales tax revenue losses. The near-term revenue to Humboldt County during decade one for PALCO-related actions as well as the PALCO and Elk River Timber Company combined action were both calculated to be an average annual loss of approximately \$1.1 million. Compared to the other alternatives, this alternative results in the third-largest financial impact in Humboldt County.

The above analysis assumes implementation of the wide, no-harvest RMZs. The next average annual effects on government taxes and revenues would not change as a result of changes in either PILT or county property tax revenues, which are dependent upon total acres, not harvestable timber lands exclusive of RMZ buffers. Both timber yield tax revenues and sales tax revenues to Humboldt County from PALCO, however, would be affected by changes in buffer widths. Implementation of narrower, no-harvest RMZs would increase harvest volumes by an estimated

15 percent, which would similarly increase these tax revenues. Considering revenues from these two sources comprise nearly 98 percent of the net financial revenues under Alternative 1, forecast net average annual revenues to Humboldt County would be expected to increase by approximately 15 percent in comparison to the revenues generated assuming the wide, no-harvest RMZ buffers.

#### **ALTERNATIVE 2 (PROPOSED ACTION/PROPOSED PROJECT)**

Under this alternative, private lands would be acquired by the federal and state governments, which would affect PILT payments to Humboldt County, as well as county property tax revenues. The associated forest land management and timber harvest practices also were assumed to reduce timber harvest volumes on PALCO lands. During the first decade, the county would annually lose an estimated \$199,000 for PALCO actions. Anticipated near-term annual losses in government revenue for PALCO and Elk River Timber Company together were estimated to be \$339,428. Both of these potential losses, however, would represent only a negligible amount of total county receipts. This alternative results in the least financial impacts to Humboldt County.

The net effect on government taxes and revenues under this alternative is very similar to that described for Alternative 2a (Table 3.13-5).

#### **ALTERNATIVE 2A (NO ELK RIVER PROPERTY)**

The potential effects on government taxes and revenues under this alternative are similar to those described under Alternative 2 (Table 3.13-13). The net financial impact would be an average annual loss of between \$373,000 and \$386,000, approximately 0.1 percent of the county's total local government financial receipts from 1995 to 1996.

#### **ALTERNATIVE 3 (PROPERTY-WIDE SELECTIVE HARVEST)**

Under this alternative, timber volumes are substantially reduced, which would similarly affect local government revenues.

In all, the financial effects of this alternative would be the most burdensome for Humboldt County. During the first decade of the planning period, Humboldt County would realize an average annual loss of \$3 million in total county revenues. This would be a substantial financial loss for Humboldt County, although this decline would represent a very small portion of the county's total local government receipts for the 1995 to 1996 fiscal year (Table 3.13-13).

#### **ALTERNATIVE 4 (63,000-ACRE NO-HARVEST PUBLIC RESERVE)**

Alternative 4 proposes the withdrawal of over 63,673 acres of commercial forest land in Humboldt County. This would potentially reduce the total amount of commercial forest land in the county, which, in turn, would reduce property tax revenues and increase PILT payments. The assumed volumes of timber harvests under this alternative would result in a direct loss of an estimated \$1.2 million per year for both the near-term PALCO and PALCO/Elk River Timber Company actions.

In summary, potential effects of the proposed alternatives evaluated in this document on Humboldt County taxes and revenues could involve large sums of money. The most influential factor affecting local government revenues is timber harvest volumes and the resulting magnitude and range of changes in revenue from the California timber yield tax. The range of values for potential sales tax losses appears to have the second-most influential effects on net financial impacts to Humboldt County. The potential near-term net government revenues for each of the alternatives would result in average annual revenue losses to Humboldt County from

**Table 3.13-15. Humboldt County Forecast Average Annual Net Effects on Taxes and Revenues for Decade 1**

Humboldt Co.		Alternative 1	Alternative 2	Alternative 2a	Alternative 3	Alternative 4
<b>Revenue (FY 94-95)</b>						
<b>Total County</b>		\$ 136,978,113				
<b>PALCO</b>						
<b>Federal</b>	PILT (1-5 yrs.)	\$14,131	\$29,007	\$29,007	\$29,007	\$166,340
	PILT (6-10 yrs.)	\$14,131	\$15,342	\$15,342	\$15,342	\$26,520
<b>State</b>	Timber Yield Tax	(\$920,990)	(\$192,752)	(\$333,541)	(\$1,907,779)	(\$993,864)
	TPZ Property Tax	\$0	\$4,593	(\$13,665)	\$4,593	(\$139,821)
<b>County</b>	Sales Tax	(\$183,469)	(\$39,585)	(\$67,467)	(\$377,954)	(\$197,582)
	Net (1-5 yrs.)	(\$1,090,328)	(\$198,737)	(\$385,666)	(\$2,252,133)	(\$1,164,927)
	Net (6-10 yrs.)	(\$1,090,328)	(\$212,402)	(\$399,331)	(\$2,265,798)	(\$1,304,747)
<i>Percent of County Total (1-5 yrs.)</i>		(\$0)	(\$0)	(\$0)	(\$0)	(\$0)
<b>TOTAL</b>						
<b>Federal</b>	PILT (1-5 yrs.)	\$14,131	\$33,558	\$29,007	\$33,558	\$178,407
	PILT (6-10 yrs.)	\$14,131	\$15,712	\$15,342	\$15,712	\$27,502
<b>State</b>	Timber Yield Tax	(\$910,289)	(\$315,554)	(\$322,840)	(\$2,030,580)	(\$1,047,956)
	TPZ Property Tax	\$0	(\$17,847)	(\$13,665)	(\$17,847)	(\$150,905)
<b>County</b>	Sales Tax	(\$181,404)	(\$39,585)	(\$65,746)	(\$377,954)	(\$207,221)
	Net (1-5 yrs.)	(\$1,077,562)	(\$339,428)	(\$373,244)	(\$2,392,823)	(\$1,227,675)
	Net (6-10 yrs.)	(\$1,077,562)	(\$357,274)	(\$386,909.00)	(\$2,410,669)	(\$1,378,580)
<i>Percent of County Total (1-5 yrs.)</i>		-0.8%	-0.2%	-0.3%	-1.7%	-0.9%
Note: Changes in revenue are representative for 1997, while Humboldt County budgets are based on fiscal year 1994/5. Presumably, the county's total revenue has increased from 1994 and 1995 levels, and net effects would be lower than those represented.						
Source: California Department of Finance, 1996; California State Controller, 1996.						

\$198,737 for Alternative 2 to over \$2.2 million for Alternative 3. Overall, Alternative 2 would have the least financial impact to Humboldt County during decade 1 following the acquisition of PALCO timberlands.

### 3.13.2.6 PALCO Acquisition of Additional Timber Land

As part of the proposed IA for the HCP, PALCO may acquire additional land within one mile of the current boundaries without having to formally amend the HCP. The acquisition of such lands could total approximately 25,000 acres. Note, the IA and the HCP do not preclude PALCO from purchasing other timberlands. These lands would not, however, be covered by the IA without amending the HCP. The acquisition of this additional acreage would

be substantial compared to PALCO's total land ownership under Alternatives 2 and 3 (211,799 acres), Alternative 2a (204,095 acres), or Alternative 4 (145,099 acres). As such, the acquisition of this land could affect social and economic conditions in the primary area of influence.

Assuming that the acquired acreage would be privately owned commercial forest land, the implementation of PALCO's approved HCP to manage logging operations would likely reduce future harvest volumes on the acquired land, based on the analysis of the proposed project alternatives. The degree to which harvest volumes would decline is uncertain without specific knowledge of the characteristics of lands that could be acquired. Similarly, employment for workers in the timber industry and timber-

related sectors of the local economy could decrease to a small extent. The level of potential loss of personal income to these workers would be unlikely to cause out-migration of workers and their family members from Humboldt County.

PALCO's potential acquisition of an additional 25,000 acres of timberland would likely affect county revenues from only two taxes. As described above, the future management of the acquired timberland under PALCO's approved HCP could result in reduced timber harvest volumes and timber-related employment. These effects would decrease Humboldt County revenues from the California timber yield tax and the sales tax. The acquisition of privately owned timberland would not affect county revenues from either PILT or property tax revenues.

### **3.13.3 Other Social Considerations**

Under Alternative 1 (No Action/No Project), none of the social controversy surrounding the Headwaters Forest or PALCO's management would be addressed. Widespread public concern and protests over the protection of old-growth forests, particularly redwood, and endangered species would likely continue.

Under Alternatives 2 (Proposed Action/Proposed Project) and 2a (No Elk River Property), the Headwaters Forest would be protected in public ownership while most of the remaining high-quality marbled murrelet habitat would be protected in MMCAs. Aquatic habitat would also receive substantial protection. While not all members of the public would consider the protection provided by Alternatives 2 and 2a adequate, many people would. Some level of continued public protest would likely continue.

Under Alternative 3 (Property-wide Selective Harvest), the Headwaters Reserve would be the same size as under Alternatives 2 and 2a. The remainder of

the property, however, would be managed so that all remaining old growth and the aquatic system would be protected. Although this remaining land would not be under public ownership, the complete protection would probably satisfy most of the public, and further public protest would likely be at a minimum. Since this alternative reduces timber harvest on PALCO lands by approximately 62 percent compared to the proposed action, additional social controversy would likely occur related to substantially reduced local employment.

Under Alternative 4 (63,000-acre, No-harvest Public Reserve), much of the old growth on PALCO's ownership would be protected, although all old growth and residual outside the Reserve would be available for timber harvest. Aquatic measures would be the same as under Alternatives 2 and 2a. While Alternative 4 places about 29 percent of PALCO's property into public ownership, some members of the public might still be opposed to the harvest of old growth on the remainder of the property and to the aquatic measures. Some level of public protest might still remain under Alternative 4.

Although Alternatives 3 and 4 apparently provide for lower levels of social controversy than the proposed action, these alternatives cannot be unilaterally imposed on PALCO by government agencies. In addition, as noted in Section 2.5, the source of funding for acquisition of the 63,000-acre Reserve under Alternative 4 is currently unknown.

### **3.13.4 AB 1986 Conditions**

Under the HCP, either Owl Creek MMCA or Grizzly Creek MMCA would be available for harvest. AB 1986 conditions the expenditure of state funds for acquisition of the Headwaters Forest and other lands on the inclusion of several provisions in the final HCP, the IA, and the ITPs intended to strengthen protections for covered species.

Should PALCO include those provisions in the final HCP, state moneys would be appropriated to the state Wildlife Conservation Board to fund the state's share of the cost of acquiring approximately 7,500 acres of private forest lands, including the Headwaters Forest. Under AB 1986, Owl Creek MMCA would be protected from harvest for the life of the ITPs and Grizzly Creek MMCA would be protected for five years from the date of the adoption of the final HCP. AB 1986 also appropriates additional funding for the future opportunity to purchase of the Owl Creek. Any funds remaining from those appropriated for the purchase of the Owl Creek MMCA, could be used to purchase tracts of the "Elk River Property" and previously unlogged Douglas-fir forest land within the Mattole River watershed.

The state managing agency and management prescriptions are unknown and these acquisitions are somewhat speculative. Considering the legislative intent behind AB 1986, it is assumed purchased lands would be managed similarly to the Headwaters Reserve. These anticipated acquisitions would protect old-growth and residual redwood stands and some Douglas-fir stands within these tracts in perpetuity.

The combined effect of land acquisition and additional protections on the landscape could reduce the availability of timber and thus further reduce timber supply in the local area and related timber harvest employment. Reductions in timber supply would further reduce government revenues generated from timber harvesting, in particular the timber yield tax. However, AB 1986 provides \$15 million to Humboldt County for economic assistance.

### **3.13.5 Cumulative Effects**

The cumulative effects on the economic and social environment focus on forecasted changes in Humboldt County's timber

industry, employment, and government taxes and revenues and information presented in Section 3.2. Estimated timber harvest volumes under any of the alternatives are less than historic figures. This decline, however, is consistent with both historic trends and projected trends. Humboldt County timber harvests of the late 1980s were more than 200,000 mbf greater than harvest over the past five years (Table 3.13-6), and timber harvests during the late 1950s through the early 1970s were two to three times as great as recent harvests. A 1989 study projected that timber harvest volumes in the North Coast would continue to decline through 2035 (Krumland and McKillop, 1989). Only then would second-growth harvests from historic harvested timberlands be mature enough to be harvested. Considering that PALCO timberlands dominate the timber industry in Humboldt County, the proposed harvests under each of the alternatives would exacerbate the anticipated impacts of declining timber harvests in Humboldt County in future decades.

The cumulative effects on employment would be directly related to the forecasted reduction of timber harvest volumes as well as other factors. Consistent with declining timber harvest volumes in Humboldt County, employment in the lumber and wood products sector of the economy has declined significantly over past decades. Fewer loggers and sawmill workers have been needed as a result of increased use of mechanized equipment. Over the past 10 to 15 years, the proportion of harvested old-growth timber in Humboldt County has fallen dramatically in comparison to second-growth timber. This change also has reduced the number of workers required to log and mill the timber. All three of these factors are expected to continue to shape PALCO employment. In particular, reduced availability of old-growth timber on PALCO land under any of the alternatives may eventually pressure

PALCO either to retrofit or close its mills that are primarily dedicated to the processing of old-growth timber. Forecasted changes for PALCO are a microcosm of changes in the timber industry.

The effects of declines in PALCO and Humboldt County lumber and wood products employment, however, are not expected to cause significant impacts on the local economy. Over the past 30 years, total lumber and wood products jobs in Humboldt County have steadily decreased, from a high of 25 percent of total employment to approximately 8 to 10 percent in recent years. This proportion remains significant, but the reduction clearly reflects the ongoing diversification of the local economy. The county is anticipated to continue to attract people, and total employment is projected to increase at a respectable compound growth rate of 1.5 percent over the next 10 years. Forecasted changes in timber-related employment resulting from the implementation of either Alternative 2 or 2a would not affect the local economy. Under any of the other alternatives, the strength of the local economy would be expected to be negatively affected, potentially quite significantly, especially under Alternative 3.

The reduction in timber harvest volumes, reduction in lumber and wood products employment, and increase in public lands in Humboldt County resulting from any of the alternatives would collectively reduce revenues to the county. Though average annual revenues from federal PILT would increase potentially by \$15,000 to 30,000 (except Alternative 4) for the first five years, reductions in property tax revenues would nearly erase the increased revenues. The most significant change in revenue, though, would be primarily attributable to timber field tax and sales tax revenues. Overall, total county average annual

revenues would decline by an estimated \$2 million under Alternative 3, an estimated \$1 million under Alternative 1 and 4, and less than \$400,000 under either Alternative 2 or Alternative 2a. Under all of these alternatives, however, this significant reduction in revenues would be less than 2 percent of total county revenues.

In conclusion, the forecasted reduction in PALCO timber harvests under any of the alternatives evaluated in this document, except Alternative 3, reflect projected declines in county-wide and California state harvests. The large reduction in timber harvest, however, would mostly affect revenues to PALCO, rather than total revenues to the county. Likely reductions in timber-related employment would be expected to displace timber workers, and job retraining programs should be developed and available to displaced timber workers associated with reduced PALCO harvests as well as the ongoing restructuring in the timber industry.

### **3.13.6 Mitigation**

Mitigation measures generally are prescribed to avoid, reduce, and minimize potentially significant environmental impacts. Under NEPA, potential social and economic effects should be discussed in terms of a proposed natural or physical change in the environment [40 CFR Section 1508.14]. In contrast, social and economic effects may be discussed under CEQA, but are not considered significant effects on the environment [Guidelines Section 15064(f)]. As such, the development and recommendation of mitigation measures to avoid, reduce, or minimize potential social and economic impacts are not strictly required.

As part of the proposed HCP and SYP for the proposed action Alternative 2, however, PALCO presented measures to offset potential employment impacts. To minimize potential reductions in timber-

related employment, the company proposed to purchase additional timber to maintain current numbers of lumber and wood products employment at PALCO's mills (PALCO, 1998, Volume I). An analysis of the likelihood that lumber production levels and employees could be maintained is discussed in Section 3.13.2.2, Employment, and in Table 3.13-9.

As part of the federal and state legislation to acquire PALCO and Elk River Timber Company land, additional monies would be paid to Humboldt County under Alternatives 2 and 2a.

The federal government has offered financial resources to Humboldt County totaling \$10 million to relieve any unforeseen negative impacts. County officials have publicly stated that such resources could be used to improve port and rail facilities, as well as for other capital improvement projects. Though the construction and operation of such projects would create new job opportunities, lumber and wood products workers may not have the needed skills to fill these jobs, nor would wages and salaries of these jobs replace past earnings of logging and sawmill workers. To address this issue, county officials have promised to use some of the financial resources to support job retraining programs. This money is not considered mitigation per NEPA or CEQA regulations.